8.19
1.3.1
275
c.2

DEC 28 1965

# TYPEWRITING FOR Business Education Departments IN Pennsylvania's Public Schools

BULLETIN 275

COMMONWEALTH OF PENNSYLVANIA • 1962
DEPARTMENT OF PUBLIC INSTRUCTION • Harrisburg

DOCUMENTS SECTION

**COMMONWEALTH OF PENNSYLVANIA**

**David L. Lawrence**

**Governor**

**Charles H. Boehm**

***Superintendent of Public Instruction and***

***President, State Council of Education***

**STATE COUNCIL OF EDUCATION**

**Dr. Paul R. Anderson**
**Mr. Mario C. Celli**
**Miss Cathleen M. Champlin**
**Dr. James H. Duckrey**
**Dr. O. H. English**
**Mr. Ira C. Gross**
**Andrew J. Nowak, Esquire**
**Dr. Stephen B. Sweeney**
**Mr. Duane E. Wilder**

---

# *Message from the Superintendent of Public Instruction*

The preparation of publications designed to assist school administrators and teachers in improving classroom instruction is one of the functions of the Department of Public Instruction. This publication was developed in answer to requests for a teaching guide in typewriting.

Significant contributions of educational research in typewriting and the opinions of outstanding authorities in the field of typewriting instruction are presented. It is hoped that typewriting teachers will use the suggestions in this guide to develop effective teaching techniques.

Appreciation is extended to the following school systems for providing the photographs: Abington, Berwyn, and Philadelphia.

We urge administrators and teachers to send their comments with constructive recommendations to William H. Selden, Jr., Consultant, Business Education, Bureau of Curriculum Administration, Department of Public Instruction.

June, 1962

Charles H. Boehm

# Contents


| | PAGE |
|---|---|
| Chapter One. TYPEWRITING AS A SCHOOL SUBJECT | 1 |
| Objectives | 1 |
| Grade Placement and Relationship to Other Subjects | 2 |
| Prognosis | 3 |
| Job Analysis and Occupational Information | 3 |
| Typewriting for Personal Use | 5 |
| Typewriting for Vocational Use | 6 |
| Typewriting for the Handicapped | 6 |
| Chapter Two. PRINCIPLES AND TECHNIQUES OF INSTRUCTION | 11 |
| Orientation of Pupils | 11 |
| Psychological Principles | 12 |
| Individual Differences | 14 |
| Teaching Procedures | 15 |
| Evaluation | 17 |
| Analysis of Errors | 20 |
| Demonstration | 21 |
| Bulletin Board | 23 |
| Textbooks and Related Materials | 24 |
| Chapter Three. DEVELOPMENT OF TYPEWRITER COMPETENCIES | 27 |
| Machine Parts | 27 |
| Keyboard | 27 |
| Numbers | 28 |
| Proper Techniques | 31 |
| Speed and Accuracy | 34 |
| Drills | 35 |
| Tabulation | 36 |
| Erasing | 37 |
| Composition | 38 |
| Proofreading | 39 |
| Changing Ribbons | 40 |
| Other Competencies | 40 |
| Forms | 42 |
| Letters | 42 |
| Manuscript Typewriting | 45 |
| Production Work | 45 |
| Chapter Four. TYPEWRITING TRENDS | 49 |
| Makes of Machines | 49 |
| Replacement of Manual Typewriters by Electrics | 49 |
| Use of Television | 51 |
| Reduction of Time in Typewriting Instruction | 52 |

# Contents (Continued)

PAGE

Chapter Five. ELECTRIC TYPEWRITERS ..... 53
- Use of Electric Typewriters by Business ..... 53
- Use of Electric Typewriters by Schools ..... 54
- Procurement of Electric Typewriters ..... 55
- Teaching with Manuals and Electrics ..... 55

Chapter Six. FACILITIES, EQUIPMENT, AND SUPPLIES ..... 57
- Plan of Room ..... 57
- Selection of Desks and Chairs, Copyholders, and Demonstration Stand ..... 58
- Selection of Typewriters ..... 60
- Cost of Equipment ..... 62
- Maintenance of Typewriters ..... 64
- Records of Typewriters ..... 64
- Supplies ..... 65

Chapter Seven. ADMINISTRATION OF TYPEWRITING ..... 69
- Supervision ..... 69
- Work for the School and the Community ..... 71
- Use of Intercommunication System ..... 71

Chapter Eight. INSTRUCTIONAL AIDS ..... 73
- Books ..... 73
- Miscellaneous Publications ..... 74
- Audiovisual Aids ..... 75

# Preface

The purpose of this guide is to supplement the teacher's knowledge of teaching techniques rather than supplement methodology courses in typewriting. The inexperienced teacher should find it useful in giving proper direction and emphasis in instruction. The experienced teacher should also find it helpful in improving and vitalizing his teaching procedures.

The efforts and time of those who helped in the guide's development will be repaid in the degree to which it is used and understood. Fuller understanding may be achieved through (1) individual study by the typewriting teacher; (2) discussion in department meetings and in county, regional, and state conferences of business teachers; and (3) reference use in collegiate courses in teaching typewriting and business subjects on both a preservice and in-service basis.

Through the use of this instructional guide, the best typewriting instruction possible can be provided. With business teachers striving for similar goals, business education will make a greater contribution to the educational objectives of Pennsylvania high schools.

CHAPTER ONE

# Typewriting As A School Subject

Typewriting, in all probability, is elected by more pupils in Pennsylvania than any other elective subject. During the 1960-61 school term, when the secondary school enrollment in Pennsylvania from grades 10 through 12 was 359,847, the enrollment in typewriting was 106,149 or approximately 29 percent. Since this subject is available for election by the high school pupil for a limited time only, this is a good percentage. Also, in interpreting this information one should realize that many of the 359,947 pupils have taken or will be taking this subject. Cursory studies indicate that approximately 90 percent of the pupils in Pennsylvania's high school graduating classes enrolled in typewriting for at least one semester.

## Objectives

The objectives of typewriting for all pupils are

1. to acquire competency to operate a typewriter for personal and/or vocational use.
2. to improve competencies in punctuation, spelling, and syllabication.
3. to give pupils experience in locating and correcting their own errors.
4. to develop the ability to clean the typewriter, change the ribbon, and report the need for any adjustments or repairs.
5. to develop the ability to select wisely and use typewriting supplies effectively.
6. to teach pupils to type personal letters and school assignments.

In addition to the objectives of typewriting for all pupils, additional ones for pupils who take this subject for vocational use are

1. to master the typing of numbers and special characters, such as ", $, etc.
2. to give pupils experience in solving problems without detailed instructions.
3. to afford pupils an opportunity to type forms (including basic legal forms) and business letters under office conditions.
4. to develop work habits that are important to success in a business office, such as organization of work so assignments will be promptly completed, following directions, and continual self-evaluation.

5. to type at least 45 words a minute with no more than one error a minute on the best of three five-minute writings on straight copy material, and at least 40 words a minute with no more than one error a minute on the best three ten-minute writings on straight copy material.

In addition to the objectives of typewriting for all pupils, additional ones for pupils who take this subject for personal use are

1. to set up simple business letters correctly.
2. to do manuscript typewriting without the need to check reference books.
3. to compose on a typewriter as easily as with a pencil.
4. to type at least 30 words a minute with no more than one error a minute on the best of three one-minute writings on straight copy material, and at least 25 words a minute with no more than one error a minute on the best of three five-minute writings on straight copy material.

### Grade Placement and Relationship to Other Subjects

Typewriting is a vocational subject for pupils who are enrolled in the business education curriculum. In accordance with the principles of vocational education, this subject should be taught close to the time of graduation and the pupils' entry into the world of business so the typewriting skill of vocational business pupils may be at the highest level of achievement. Experience indicates that typewriting can be taught most efficiently when pupils attain the age of 16 or more. Therefore, typewriting should not be taught for vocational purposes below the eleventh-grade level.

Pupils who are not enrolled in the business education curriculum may elect typewriting whenever it can best be fitted into their senior high school schedule. Although, for these pupils, it might be considered another means of communication rather than a vocational competency, the basic skill is the same.

In most public schools of the Commonwealth that offer an office practice course, typewriting is a prerequisite because it includes instruction in transcribing machines and in the typewriting of stencils and master sheets for duplicating machines.

Also, typewriting is related closely to shorthand because a typewriter is needed to transcribe shorthand notes. Therefore, a knowledge of shorthand is almost useless without a background of typewriting.

Pupils of marginal ability who may have difficulty in shorthand can profit by taking typewriting. Although these pupils generally require a longer period of time to learn to type, they become adapted to spending long periods of time on the typewriter in routine copy work.

## Prognosis

Many different types of tests have been used in an attempt to determine probable success in typewriting. Thus far, no test has been found that predicts ability to manipulate a typewriter even though much research in typewriting has been done in this area. Very little research has been done to determine one's ability to do production work.

Research concludes that the correlation between finger dexterity and typewriting is almost nil, and the relationship between intelligence quotient and typewriting is low. It has also been found that the correlation of blood pulsation and rhythm tests to typewriting is insignficant.

It is believed that there is a positive correlation between reading level and basic typewriting ability. Also, experience indicates that achievement in other school subjects is a good indicator. The intelligence quotient appears to have some relationship to production work. An explanation of production work may be found on page 45.

Experience indicates that some pupils encounter difficulty in making emotional adjustments when they fail or do poorly in certain aspects of typewriting. Unfortunately, there is no basis on which to predicate this type of trouble.

Lessenberry* drew the following conclusions on this subject:

> A summary of attempts to find a reliable means of predicting ability to learn typewriting must inevitably conclude with the statement that no single measure or combination of measures has been proved reliable. Research must be continued. Perhaps the first step will be the discovery of the factors that must be present for successful typing. This discovery may call for case studies of outstandingly successful classroom typists as well as conspicuously unsuccessful ones. Then, too, much work should be done on the problem of interest, for this is probably the chief factor that must be present for successful learning.

Since interest is perhaps the most important factor necessary for successful learning, anyone who would like to take typewriting for vocational or personal use should be permitted to do so. Teachers should realize, however, that a low IQ and lack of progress decrease whatever interest a pupil of low ability might have.

## Job Analysis and Occupational Information

Typewriting not only prepares one to become a typist but is an area of learning necessary for several related occupations. *The Dictionary of Occupational Titles,* a publication of the United States Government Print-

* D. D. Lessenberry, *Methods of Teaching Typewriting,* Monograph 71, Cincinnati, South-Western Publishing Company, February, 1949, p. 32.

ing Office, describes the work of the typist as follows: "Typewrites letters, addresses envelopes, copies data from one record to another, fills in report forms, and does miscellaneous typing, all the work being routine or straight copy from rough draft or corrected copy. May make stencils for use in duplicating machines." This publication also explains the work of many specialized kinds of typists such as policy writer, stencil cutter, tabular typist, etc.

Chronicle Guidance Publications in their occupational brief on the work of a typist breaks this occupation down into three general categories —typists, dictating-machine typists, and specialty typists. A typist is either a clerk-typist or a general and technical typist. The clerk-typist uses the typewriter almost 50 percent of the time for preparing reports, making out bills, addressing outgoing mail, and cutting simple stencils. The general and technical typist uses the typewriter about 75 percent of the time for copying complex statistical data, insurance policies, etc. The dictating-machine typist transcribes messages, such as letters, from a machine. The specialty typist operates a typewriter or a machine with a keyboard similar to a typewriter, such as a computing billing machine, teletype machine, vari-type machine, key-punch machine, and justowriter.

Pupils should realize what will be expected of them as a part- or full-time typist when they enter a job situation. This can be done to a certain extent, by pointing out the following to pupils:*

1. They will not do any drills on the job . . .
2. They will not take a timed writing on the job; it is a yardstick only. (When applying for a job, they may be required to take a timed writing.)
3. Rarely will anyone stand by with a stopwatch in his hand, timing the work being done. (Efficiency experts sometimes do this, but the number of instances is very small.)
4. They will be required to type neat, usable material—and do so in a reasonable time.
5. They will be required to work under constant supervision and accept criticism.
6. They must be able to do any kind of typing work handed them for completion.

Typewriting is essential to the secretarial or stenographic area of employment. Every secretary and stenographer spends most of her time using a typewriter. Bookkeepers, clerks, court reporters, writers, and many others usually spend at least a portion of their time operating a typewriter.

* Leonard J. Porter, "Toward More Realistic Typewriting Training," *Business Teaching Aid No. T-3*. Englewood Cliffs, Prentice-Hall, Inc.

## Typewriting for Personal Use

Most high school pupils who are not enrolled in the business education curriculum want to elect typewriting for immediate personal use or for subsequent use in college. *It is generally agreed that pupils who are not taking typewriting for vocational purposes can acquire sufficient skill in one semester when they are properly taught with adequate equipment.*

Training during the first semester ought to be similar for all pupils as the development of basic skills should come first in any beginning typewriting class—personal use or vocational. If typewriting for personal use is devoted primarily to the application of typewriting skill, basic skill development will be retarded. There is a positive correlation between the mastery of basic typewriting skills and the application of these skills in both personal and vocational usage. The difference in teaching typewriting for personal and vocational use is not in the acquiring of typewriting skill; rather it is in subject matter or problems to be typed.

Lessenberry* believes that premature introduction of typewriting problems or the use of difficult material for practice may set blocks to learning that delay or defeat the growth of a typewriting skill.

An advantage of offering typewriting for personal use for one semester is that after one class is finished another can be started in the middle of the year. This will enable more pupils to elect typewriting in schools that have limited facilities in this subject. In schools that have inadequate facilities, it might be possible to offer typewriting for personal use every other year.

Typewriting is a manipulative skill and needs frequent practice to be developed. Although some schools have met with success in offering personal use typewriting two periods a week for one year, it is advisable to offer this subject at least four, preferably five, periods a week for one semester.

Schools should consider the possibility of offering personal use typewriting in the summer. This might offer such advantages as a larger number of pupils electing this subject, allowing pupils who would have enrolled in typewriting to take another subject during the regular school term, better utilization of equipment, maintaining of one rather than two typewriting rooms, and permitting teachers during the regular school term to teach other subjects.

In setting up a summer school program, it is suggested that 75 hours of instruction be provided. This subject could be taught in a five-week period if it is offered for 15 hours per week or three hours a day.

---

* D. D. Lessenberry, "Basic Skill for Better Personal Typewriting," *UBEA Forum,* 10:11-12, November, 1955.

## Typewriting for Vocational Use

It is sometimes believed that the only employes who use typewriting for vocational purposes are such office workers as clerks, secretaries, stenographers, and typists. This belief is not true. Many in other vocational fields use typewriting in their everyday work. One example is the salesman who travels on the road and types his reports, sometimes of a statistical nature, in the evening.

In the field of journalism many authors compose their entire manuscript at a typewriter. Newspaper reporters generally prepare their articles in typewritten form, and it is mandatory that they do so in a short period of time. Also, in the field of advertising, many employes prepare copy on the typewriter. For this reason many colleges and universities with schools or departments of commerce require that their students take typewriting if they have not had prior training in this subject.

Then, too, it should be borne in mind that typewriting skill is basic to operating accounting machines and other office machines.

## Typewriting for the Handicapped

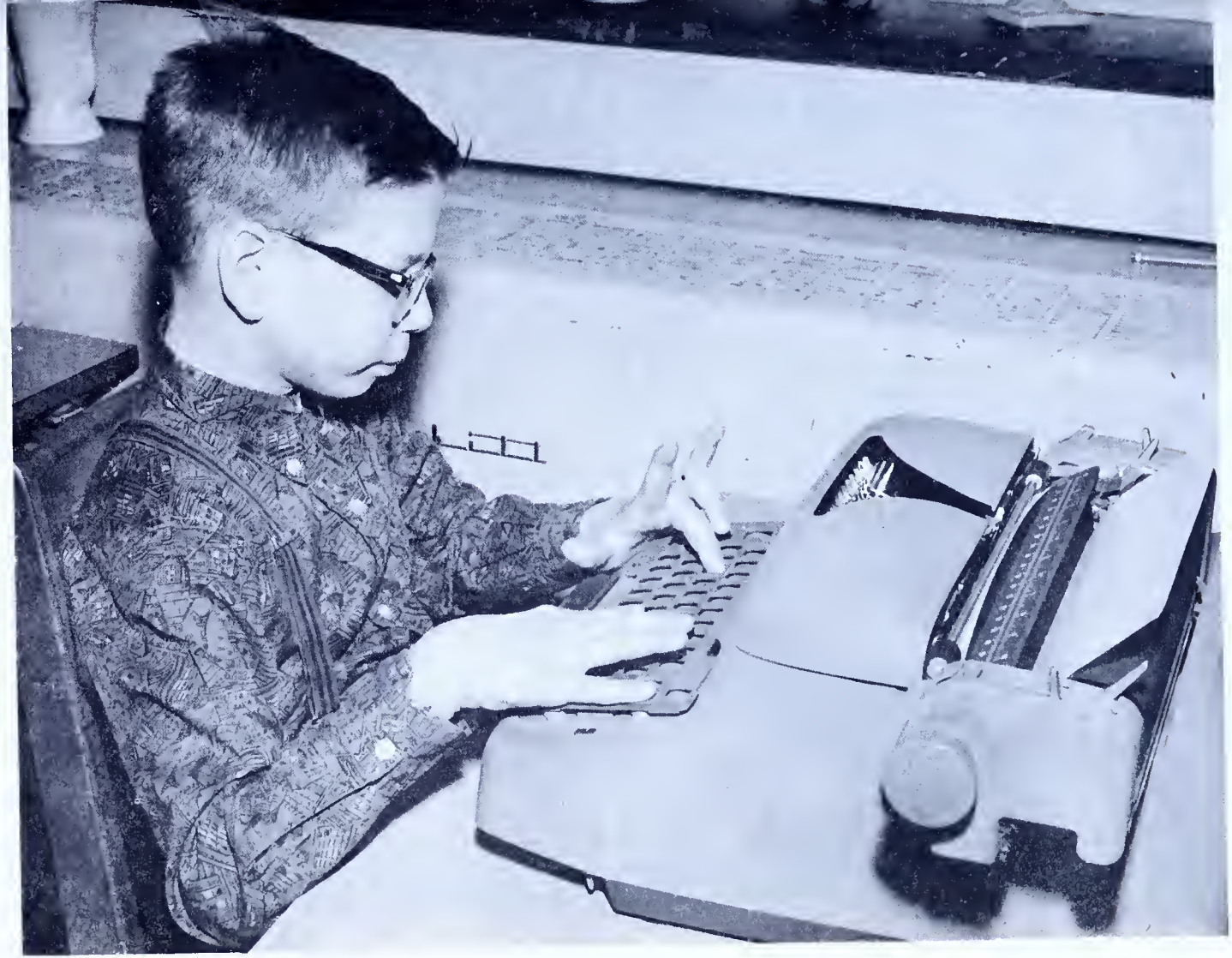
Greater consideration should be given to offering typewriting to handicapped pupils. Also, much more research should be conducted in this area. Some material is available in teaching handicapped pupils to type. For instance, there is a textbook that can be used in teaching this skill to one-handed pupils.

The following information that appears in the California course of study in typewriting* is of significance:

> There are many special uses of typewriting. These include its use in rehabilitation programs as a medium of communication that may be used by handicapped persons and used in school as a means of furthering programs of instruction.
>
> At the conclusion of World War I, typewriting was introduced in rehabilitation programs for veterans who had to change their vocations because of injuries received in service that prevented them from returning to their original occupations. The use of typewriting for this purpose has increased greatly, especially since the beginning of World War II.
>
> Individuals who have physical disabilities, such as faulty vision, impaired hearing, inadequate muscular control, a hand or some fingers missing, frequently find typewriting a means of partially, if not wholly, overcoming their handicaps. Typewriting has proved especially useful to the partially blind. The totally blind have found it a means whereby they can carry on activities that they would otherwise have to forego.

---

* *Guide for the Teaching of Typewriting, A.* Sacramento, California State Department of Education, September, 1952, Pp. 2-3.



lectric typewriter with guide

Provisions can be made for pupils who should be scheduled for "sight-saving" classes. These pupils can be trained on the vocational level if the proper tools of study such as textbooks with over-size print are provided.

Richardson* developed a very practical and realistic article relative to teaching typewriting to the blind. This manuscript explains the approach that needs to be used as well as the deviations that should be made from the general program of instruction when a blind pupil is in the class. These deviations are presented under the following rubrics: Paper Guide, Margins, Assembling the Work, Erasing, and Filing. One of the concluding paragraphs of this article states:

> If we were to make a resumé of the essentials of happy living, our own personal place in society would rate very highly with each of us. So it is with the blind person. He feels that an added skill or ability is an added channel in the direction of self-sufficiency and equality of living, and the blind typist who is well trained has an excellent opportunity for employment today. Scores of blind typists are now employed in Government offices, hospitals, industrial concerns, insurance companies and other businesses.

Another significant manuscript on this subject was written by Davis** of the Sunbeam School for Crippled Children, Cleveland, Ohio. Some of the facts brought out in this document are (1) for some pupils the ability to operate a typewriter may be their only means of communication and for others it may be their only means to write legibly; (2) a physical therapist should be consulted when pupils with multiple handicaps begin their work on a typewriter; (3) accuracy is most important and the teacher must place great emphasis on this phase of instruction—speed, for the handicapped pupils, is approached gradually; (4) one typewriting manufacturer has developed a plate, for placement on the keyboard, that frames each key—a device which helps to improve the accuracy of a pupil who has poor muscular control; (5) the most seriously involved pupils use electric typewriters.

A large city in eastern Pennsylvania has a typewriting program for the physically handicapped. In an elementary school (whose handicapped division goes through grade nine) both the totally blind and the partially blind receive training in this subject. The totally blind usually begin instruction in the third grade, the partially blind in the sixth grade. Instruction is continued through the ninth grade. Manual machines are used.

---

* Nina K. Richardson, "Teaching the Blind to Type," *The Balance Sheet,* 42:257-59, February, 1961.

** K. Elizabeth Davis, "Typing Is Good Therapy for the Handicapped," *Business Education World,* 41:20, 38:40, April, 1961.

In this same city, typewriting is also taught in a combined elementary-high school for the orthopedic handicapped. It begins in the early grades and continues through the twelfth grade. Both manual and electric machines are used.

Typewriting is one of the few media of physical therapy that has subsequent value in terms of offering a vocational skill to those who need to learn an occupation for the purpose of earning a livelihood.

**Visually handicapped elementary school pupils operating typewriters with sight-saving type.**

Blind pupils are taught typing by a blind teacher.

CHAPTER TWO

# Principles And Techniques Of Instruction

One's ability to type in an office situation or while doing personal work is a reflection of the work habits and proper attitudes developed in the classroom. Occupational effectiveness and the chances of promotion are increased when one has received a good typewriting background. Typewriting can be taught effectively only when a teacher has an understanding of how to use different methods and techniques of instruction. A typewriting teacher needs to teach subject matter that includes both knowledges and skills. Knowledges and skills have to be taught and retaught so pupils can apply them to practical situations.

## Orientation of Pupils

In classes where equipment and a large volume of supplies are used there is need for a carefully planned orientation program. This is especially true in typewriting where pupils secure paper daily and frequently hand in assignments. The teacher needs to orient each class about the procedure to follow. At the beginning of the period each pupil should

1. pick up paper as required for the day's typing, and go immediately to assigned station.
2. place books and other materials carried from one class to another in the basket or on the shelf provided for this purpose.
3. check the typewriting station to see that copyholder, dictionary or book that gives spelling and syllabication of words, and textbooks are available.
4. type name and date in a given place on the paper.
5. start to type on material that has been preassigned. The exercise for the day will be posted on the chalkboard for the benefit of those who may have been absent the previous day.
6. report any repair work that needs to be done on the typewriter.

At the end of the period each pupil should

1. make sure the station is neat and the desk free of paper.
2. place chairs under the desk or table.
3. submit typewritten work in accordance with instructions.

In addition to the above it would be the responsibility of the first and last period classes to take care of the typewriter covers. The covers should be removed from the machines by the first period class and replaced by the last period class. These covers may present a problem

when there is no storage space at the desk or table. The back of chairs and the top of the desk or table should not be used to place covers during the day. If storage space at the desk is not provided, experience indicates it is advisable to fold the cover neatly at the beginning of the day and assign one pupil to collect the covers and place them in a suitable storage place. At the close of the day an assigned pupil can return the covers and the pupil at each typewriter can cover the machine.

### Psychological Principles

There are many basic principles of psychology relating to a motor skill such as typewriting that teachers ought to adopt in their instructional program. Skill learning is an exacting type of learning that necessitates an exacting type of teaching. Since pupils must comprehend all the skills that are presented, it is necessary in many instances to reemphasize and reteach.

The following psychological principles should enhance the program of instruction and bring about better pupil accomplishments.

*Proper techniques, speed, and accuracy are outcomes that must be acquired in learning to type, and one should not be emphasized at the expense of the others.* Any one of these three elements should not be divorced from the other two. Techniques should be stressed initially, speed and accuracy next, during the first few weeks of instruction. The way a pupil handles the typewriter in the early stages of learning to type is more important than speed or accuracy.

*Pupils should not be given too many things to learn at one time.* It is easy to confuse pupils, especially in the early stages of instruction, if too much is taught at once. Yet, this sometimes happens when the home-row of keys plus several "reach" keys, or all machine parts, are presented in one lesson. When the number of new items to be mastered in one day is kept at a minimum, progress in proper techniques, speed, and accuracy should be much greater.

*Individual differences need to be considered.* The teacher, in evaluating pupils, must recognize that there will be a significant difference in the achievement of pupils. Many pupils will become discouraged and may subsequently fail if this difference is not recognized. An example is the development of the stroking technique. Some pupils will develop this technique immediately and others will take several months to perfect it.

*Repetition is of no value unless it is meaningful and purposeful.* During the period of repetition each job or each problem should be different in some respect and present a challenge. Learning is best accomplished when a new element is introduced or the situation

changed. Some steps in the learning process may have to be repeated many times before they are mastered or understood.

*Practice will not guarantee expertness: it is an opportunity for learning.* Determining factors for effective practice are proper amount and spacing of practice, proper demonstration and interpretation of the task, monitoring or evaluation, and use of suitable practice materials. Also, practice is influenced greatly by motivation and readiness. Practice periods for motor skills should be fairly short, especially in the early stages. With increasing proficiency, the learner can profit from increasingly longer practice sessions.

*Intense and constant motivation is an important part of the learning process.* There are two types of motivation—intrinsic and extrinsic. Intrinsic motivation should predominate in typewriting classes. One method of intrinsic motivation is the use of charts and graphs that are retained by each pupil and emphasize self-competition. These will indicate to the pupils their growth and help cultivate their interest in the skill of typewriting. Because continuous satisfaction is an important part of growth, and because pupil ability is tempered by motivation, pupils need to be motivated every day. Motivation by punishment, marks, or any other such method is extrinsic. Extrinsic motivation should be used as little as possible because the disadvantages outweigh the advantages.

*The ability of the teacher to demonstrate with precision and purpose has a bearing on pupil progress.* In acquiring a motor skill pupils learn much by imitation and this is especially true in typewriting. The quotation, "one picture is worth a thousand words," has proved itself time and time again in typewriting classes. It is most important that the demonstration stand be placed where everyone can hear and see when the teacher makes a presentation. Demonstration mirrors have been used successfully in industrial arts, and it is hoped that typewriting teachers will experiment with this technique.

*Proper mental attitude encompasses degree of confidence, ability to relax, and freedom from tension.* Problems that a pupil might have in this area will be indicated by facial expression, hunched shoulders, tenseness of hands, and/or stiff fingers. These tensions can develop as a result of too much attention and criticism that inhibit pupil progress. Without realizing it, many teachers guide too rigidly and consequently pupils become frustrated. Anticipatory reaction is built up when too much anxiety is developed in the minds of pupils. Pupils make the most progress when they are relaxed and when emphasis is placed on improvement rather than perfection. For this reason, it is often advisable for a pupil to compete with his past record rather than with another pupil.

*The development of incorrect habits will retard progress.* This points up the necessity for the teacher to observe carefully all pupils. In observing the habits of pupils, teachers should check manipulative control, posture, and reading copy. Faulty habits in any of these areas should be corrected. The teacher should recognize that many mistakes made in these areas during initial instruction may rectify themselves. Therefore, pupils should be corrected after an unsound habit is observed a second or third time.

### Individual Differences

Within any group there are vast individual differences, even when pupils are grouped homogeneously by IQ. For this reason not more than 32 pupils should be scheduled for a typewriting class.

Because the capacity as well as the speed for learning varies from pupil to pupil, a teacher must know those he teaches. When a teacher knows his pupils—their personalities, their habits, their problems, their abilities, their emotional tendencies, their physical handicaps—he is in a better position to understand them. Pupils can be more adequately taught when they are understood.

Lesson plans that challenge the best pupils and do not discourage the weakest should be prepared. When this is done, it is possible through careful planning to overcome psychological barriers that inhibit the weaker pupils.

The teacher should bear in mind that his first responsibility is to the class as a whole rather than to any one pupil. During the first few weeks of instruction, as well as at the beginning and end of each class period, the teacher has a definite responsibility to the group. If a number of pupils encounter difficulty during any one presentation in the early stages of typewriting, the same material can be taught the next day in a different manner and in a shorter period of time. The better pupils will receive a review and the weaker ones ought to learn the phase of the work that the teacher is attempting to teach them.

After the first several weeks of instruction, the teacher can spend a considerable amount of time in the middle of the period working with individual pupils. He will have time to check the work of many pupils, but he will not have time to sit at his desk and correct papers. By helping individual pupils who may be encountering difficulty the teacher will have an opportunity to review rules, offer encouragement, and give remedial work.

Lessenberry* points out that guided writing is a most successful device in helping pupils type at an appropriate rate. His article points up the following:

---

* D. D. Lessenberry, "Providing for Individual Needs in Typewriting," *The Balance Sheet,* 33:148-49, December, 1951.

The purpose of this article is to illustrate the reorganization of some sentence and paragraph materials that can be used with the procedures of guided writing and calling the guide to provide for individual differences in typing rates. When these procedures are used correctly, each student can be kept working toward his personal goal and at his appropriate rate of typing even though all the work is done in the framework of group activity.

The sample paragraphs shown may be used in many ways. It is obvious, of course, that the material can be used for timed writings. There will be the problem of typing full-length lines from short lines, but that is good practice for all students except the beginners. The most important use of the material is to guide the student to type at his appropriate speed through the procedure of calling the guide for the line endings.

A more individualized use of the procedure of calling the guide with these paragraphs is to have each student select the paragraph that provides the rate at which he is expected to type. The call of the guide must be for the same time interval. . . . It is simple to individualize practice materials in this way. With materials so arranged, a great range in skill can be provided for in the same class.

## Teaching Procedures

In all subjects, certain teaching principles and techniques that are continuously overlooked and appear to be insignificant can be of utmost importance in a subject such as typewriting. Careful consideration should be given to the following, which is closely related to the material just presented.

*Early Stages of Instruction.* Even when pupils are enthusiastic about typewriting, many of them may become tense and nervous when they begin to type. Because the first several weeks in any skill subject are important, it is much better to take too much time than too little to complete the fundamentals of keyboard instruction. Exercises should be brief, and short periods for relaxation frequent. How the typewriting is done is more important in the early stages than the results that may be found on paper. Papers should not be graded during the first few weeks of instruction; instead, the teacher should carefully observe pupils to see that proper techniques are being developed. If a grade is necessary, the teacher should grade on techniques. A technique guide sheet is useful for this purpose.

*Discussion.* Although discussion is a good change of pace from physical drill, it needs to be limited so pupils will have time to type. Some of the topics in the next chapter, including erasing, proofreading, forms, letters, manuscript typewriting, and production work,

make good subjects for brief discussions. Then, too, pupils are interested in hearing and learning about the work of clerks, stenographers, and typists in business offices.

*Classroom Routine.* To avoid monotony the procedure of conducting the class ought to be slightly modified each day. Typewriting classes should be conducted in a businesslike manner and the occasional use of business forms is another means of maintaining pupil interest. To maintain pupil interest, avoid having the same routine from the first to the last day of the year.

*Terminology.* Many terms are used in teaching typewriting that are peculiar to that subject. Certain of these terms seem to have a negative rather than a positive effect on pupils, and should be avoided whenever possible. Suggested terms to use are *mailability, marketability,* or *standard of usability,* RATHER THAN *perfect copy; timed writing* RATHER THAN *speed test; start* RATHER THAN *go;* and *time* RATHER THAN *stop* when administering a timed writing. Another term that a teacher should *avoid using* is "error." Sometimes the term accuracy is "bad medicine" to beginning pupils and the term *better-controlled copy* is preferable.

*Relationship of Daily Practice to Final Ability.* Pupils may work on drills, problems, and the like day after day without seeing the relationship to the vocational competency needed by a typist. Here, teachers need to explain why the accomplishment of certain techniques is necessary. For instance, a certain degree of speed is essential because business expects each typist to turn out a given amount of work each day.

*Homework.* From time to time it is advisable to give assignments in the following areas: learning syllabication rules, planning tabulation, proofreading, and understanding such items as parts of a business letter.

*Problem Solving.* The problem-solving method might occasionally be used in teaching the fundamentals as well as production typewriting. Here, pupils attempt to solve problems without detailed instructions. This motivates learning, develops the ability to turn out work without specific directions, and builds initiative as well as resourcefulness. For example: before teaching a class how to center typewritten material, give each pupil a half sheet of paper and see if he can center his name on this sheet both horizontally and vertically in several minutes. The pupils will have difficulty solving this problem; in fact, it is doubtful if any of them will be able to do this centering job exactly as it should be done. An exercise of this type should build up pupil interest in centering and make them more receptive to the instruction they will receive.

*Pupil Analysis.* Pupil analysis is especially important when work is given on timed writings, and a pupil can do much that a teacher frequently does. With guidance and practice, a pupil can set his own goal, determine why there has or has not been improvement, and decide why certain errors have been made.

*Phonograph Records.* Although the value of phonograph records is limited, their occasional use gives variation to the instructional program. Music is stimulating; it can help set a pattern of continuity and increase the interest of the pupils when repetitive exercises are given. The production of slower pupils is generally increased when phonograph records are used because a pace is set and the fingers tend to adjust to the tempo of the music. In light of this fact, the first few days of school and the last day of school before a holiday, such as Thanksgiving, would be a logical time to use records. Records might also be used when emphasis is placed on continuity, an important technique of typewriting.

*Typewriting Tapes.* Another medium of prerecorded instruction is typewriting tapes—a comparatively new teaching device. Like phonograph records, they might have a place in the instructional program if their use is carefully planned, so that they are not merely used as a crutch. Typewriting tapes can be used for an initial presentation as well as for the review of a lesson. They can also be used by pupils who may have been absent from school and need to make up their work or by pupils who are having difficulty with typewriting and need additional practice.

*Miscellaneous.* Other procedures that might be followed are (1) to have the class type some numbers and symbols each day after they are introduced; (2) to use numbers or letters rather than names when noting the achievement of pupils on the bulletin board; (3) to coordinate work with other departments, i.e., the English Department regarding footnote forms; and (4) to give pupils occasional opportunities to type assignments for other classes. Notify them of these opportunities at least a week in advance.

## Evaluation

Standards of achievement in typewriting are more definite than those found in a subject such as general business. Schools attempt to set their standards to comply with those established in business offices. Periods of prosperity bring about heavy demands for office employes and under these circumstances business has a tendency to lower standards. Even though standards in offices depend somewhat upon the fluctuations of the economy, schools should maintain a constant level of attainment.

In evaluating the accomplishments of pupils with standards that are suggested in courses of study, recommended in teachers' manuals, advised in professional literature, and indicated by business, we need to bear in mind that standards are ideals and are of value only when they are related to what is being tested. When predetermined standards are used to evaluate pupils, we must consider the other factors or intangible qualities—businesslike attitudes, character, effective human relations traits, good work habits, and personality—that all office employes need.

Grading is often the biggest problem that confronts a teacher, especially the beginning teacher. Some teachers have been known to check every paper a pupil types and others never check papers. Checking each paper is too time consuming. A teacher who grades each paper will soon be checking papers in class when he should be teaching. Never to check a paper is also poor teaching. Pupils will eventually realize that papers are never checked and lose their incentive to progress. This points up the advisability of checking papers as the need and time permit. Most typewriting authorities agree that approximately 20 percent of the papers that pupils submit to the teacher should be carefully graded; the rest of the papers should be spot-checked. Pupils have the primary responsibility for checking papers and thus locating their errors. Most grading is a check upon pupils to find if they have located their errors. Grading should be as objective as possible and each error should carry a definite penalty.

The majority of the work should not be called for by the teacher. For instance, papers that contain drill work should not be handed in by the pupils. This does not imply, however, that pupils should not evaluate their own work on the papers that are not submitted at the end of a period.

During the first marking period, the grade given by teachers should be based on the development of the pupil. Posture, proper stroking, reading copy, and understanding and using the parts of the typewriter should be evaluated rather than the typewritten material that is found on paper. The emphasis should be placed on proper techniques, and timed writings should constitute only a small portion of the grade.

In subsequent periods the grade should be based to a greater extent on pupil growth. The teacher should bear in mind that it is more difficult to increase one's skill at the higher rates of speed. For example, a pupil encounters more difficulty in increasing his speed from 50 to 65 words per minute than from 25 to 40 words per minute. During the second and third marking periods, timed writings (assuming the marking period is on a six-week basis) should receive the major emphasis with some attention given to proper techniques and production work. After the first semester the major emphasis should be on production work.

The following chart may clarify the emphasis or percentage of the grade that may be placed on different competencies during the six marking periods:

| | *First Period* | *Second Period* | *Third Period* | *Fourth Period* | *Fifth Period* | *Sixth Period* |
|---|---|---|---|---|---|---|
| Proper Techniques | 65% | 40% | 25% | 10% | 10% | 10% |
| Timed Writing | 10% | 40% | 40% | 25% | 20% | 20% |
| Production Work | | | 15% | 45% | 50% | 55% |
| Other Factors | 25% | 20% | 20% | 20% | 20% | 15% |

For instance, during the third six-week period 25 percent of the grade might be based on proper techniques, 40 percent on timed writing, 15 percent on production work, and 20 percent on other factors (businesslike attitudes, good work habits, and the like).

It is questionable if the final grade in typewriting should be arrived at by averaging the grades a pupil earned each marking period. Since typewriting is a skill subject, the final grade should represent the achievement of the pupil at the end of the school term.

The advantages and purposes of short timed writings are many and far outweigh their shortcomings. Timed writings motivate pupils, provide the means for an analysis of pupil achievement and area of difficulty, show the extent that pupils measure up to business standards, furnish tangible information to determine grades, and indicate effectiveness of instruction.

Production typewriting should be graded for placement or form, following directions, completeness, typographical errors, unmailable letters, and the like. Here, pupils ought to be rewarded for locating and correcting their errors as well as penalized for not locating them. Sometimes teachers give pupils a double penalty for not locating their errors. Also, measurement should be made of the pupil's ability to turn out marketable work in a reasonable time. This will include exercises that require problem-saving ability such as the typing of usable manuscripts from rough drafts, setting up statistical tabulation, and the ability to arrange and type a mailable letter.

Since it has been suggested that the amount of time spent teaching typewriting be reduced, it is not advisable to indicate standards that should be accomplished by the end of each semester. As previously indicated, a suggested minimum standard to be attained in the final course in typewriting is 45 words a minute with no more than one error a minute on the best of three five-minute writings on straight copy material, and at least 40 words a minute with no more than one error a minute on the best of three ten-minute writings on straight copy material.

Some production standards that businessmen and business educators have agreed upon are:*

| *Typing Task* | *Hourly Production Rate* |
|---|---|
| Form letters and envelopes | 10 |
| Addressing envelopes—3-line | 150-225 |
| Addressing envelopes—chain-fed | 200 |
| Fill-ins—name, street, address, city, salutation | 100-200 |
| Salutation only | 225 |
| Business letters—20-line body with envelopes | 10 |
| Stencils—8½″ by 10″ having 200 words | 4-6 |
| Articles | 8-10 pages |
| Addresses or labels from printed copy | 141 |
| Ledger sheets | 111 lines |

**Analysis of Errors**

Errors are made in typewriting because of (1) unsatisfactory manipulative control, (2) weakness in reading copy, (3) improper stroking, (4) lack of understanding, (5) fatigue, and (6) psychological factors. Errors made as a result of the first three reasons are caused by faulty techniques and many times can be observed by the teacher. Errors made as a result of the last three reasons may be more difficult to detect.

Some of the information presented in the next chapter under the heading *Proper Techniques,* page 31, will help in remedying faulty manipulative control, reading copy, and stroking. It is generally a case of reteaching or re-emphasizing these three techniques.

The fourth type of error, lack of understanding, has a bearing on one's background in typewriting as well as in other subjects. If a pupil consistently spells incorrectly, he probably has a weak background in English. If a pupil has trouble figuring out tabulation, he probably has a weak background in mathematics. If a pupil has trouble setting up a letter, it probably means that he needs more instruction on this phase of work from the typewriting teacher.

When a typewriting class is scheduled late in the day, pupils sometimes make errors because of fatigue. Instead of typing continuously, it would be advisable to have a short rest period for pupils to regain their equilibrium.

At times psychological factors such as insufficient sleep or trouble at home may be a determinant. It is difficult to put one's finger on non-

* D. J. Mulkerne, "Levels and Competencies in Typewriting," *The American Business Education Yearbook,* Vol. XIII. New York, New York University Bookstore, 1956. p. 67.

typewriting causes of errors and they can not be corrected by remedial drills. Although only a small percentage of errors would fall into this category, typewriting teachers need to be aware that errors are made for these reasons.

Typewriting errors should either be ignored, studied, or corrected. Errors should be ignored in the early stages of instruction and in exercises emphasizing speed; studied when exercises are given for accuracy or for a motive other than speed development; and corrected when the class is working on forms, letters, and production typewriting.

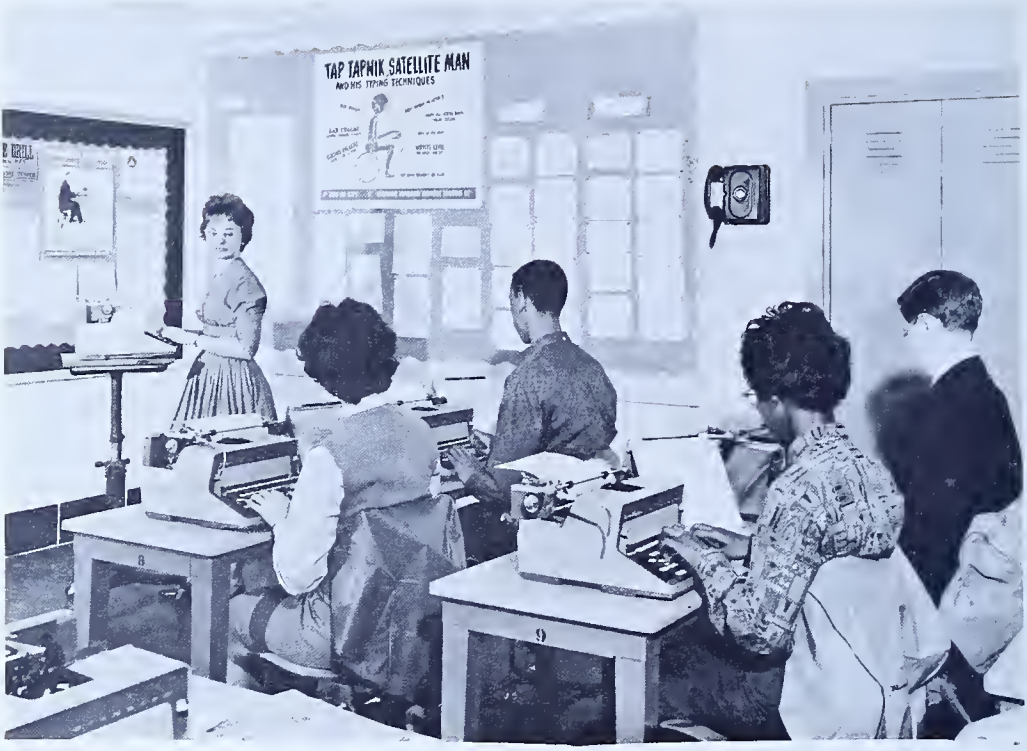
An understanding of individual pupils is necessary in an attempt to analyze the cause of errors. Error analysis charts might be kept if making necessary entries is not too time consuming and if a follow-up is made of the recorded information. Also, teachers might study the papers of each pupil and list errors to determine if the same ones occur consistently. When certain errors are made continuously, remedial drills might be administered to give additional practice in the phase of work where pupils are weak.

Finally, teachers should bear in mind that the more they talk about errors, the more pupils are apt to make them. As previously mentioned, the term error should be used as little as possible.

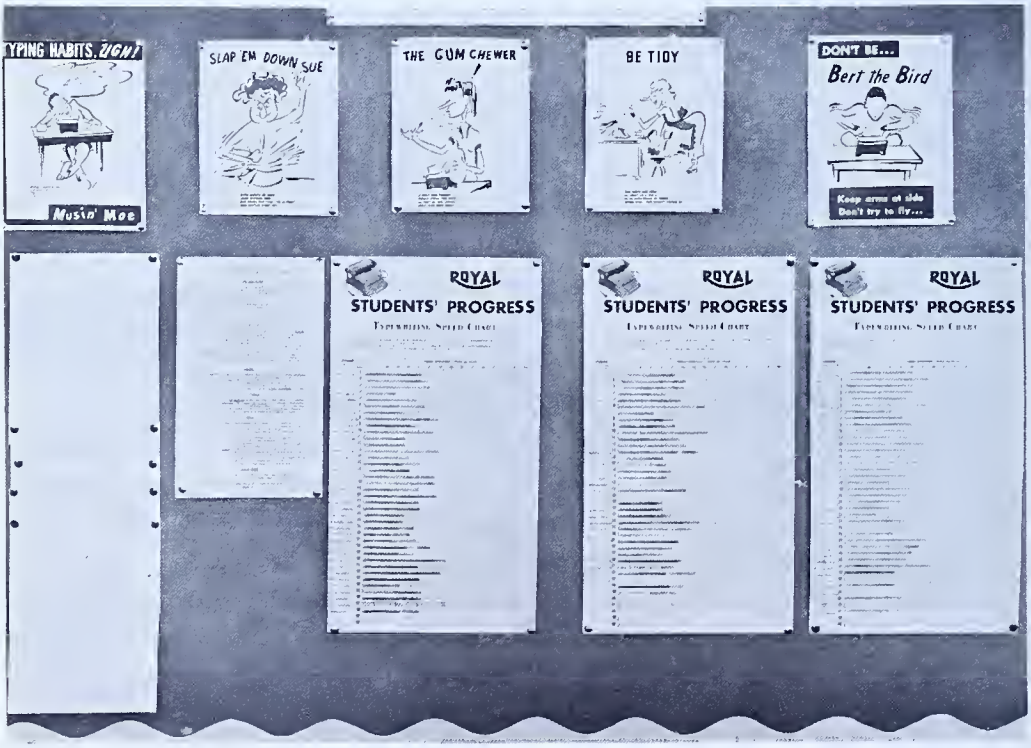
### Demonstration

In most instances, pupils learn more readily from demonstration than from oral or written directions. For certain phases of typewriting instruction, using a typewriter placed on a demonstration stand is a most effective audiovisual aid. Demonstrations are most commonly given to illustrate such proper techniques as stroking, presenting machine parts, making erasures, inserting and removing the paper, and introducing new keys. When new work or new exercises are introduced, an individual demonstration can be made. The same demonstration can be presented several times with a "slow motion" demonstration in which pupils participate in exercises in unison with the teacher. A cycle—consisting of teacher demonstration, unison exercise, and pupil practice—is a most effective way of presenting a lesson that is taught best by demonstration. The teacher should observe the exercise carefully when the pupils are practicing. If only one or two pupils do not type according to instruction, the teacher can redemonstrate at the typewriter of each pupil. When a number of pupils type incorrectly, the teacher should redemonstrate to the class, another unison practice should be held, and the pupils can then work on their own. This method of instruction is especially important during the early stages of the initial course.

Following are some suggestions in preparing for and making a demonstration:




The ability of the teacher to demonstrate with precision and purpose contributes to pupil progress.




Provision should be made for bulletin board facilities in a typewriting room.

1. Plan what to do, how to do it, and when to do it.
2. Keep the demonstration brief. This can be done by memorizing a short sentence. A ten-second demonstration is often enough.
3. Practice the demonstration before it is presented to a class.
4. Have the typewriter set and have necessary material ready for the demonstration. The typewriter should be set to make as much noise as possible. This can be done by releasing the paper bail and using the stencil lever. A heavy backing sheet (thin piece of cardboard or part of manila folder), where mistakes will not show, should be used.
5. Gear the demonstration to the range of speed within reach of pupils.
6. Vary the demonstration as extensively as possible. For instance, a wrong technique can be exaggerated; this would be followed by the proper method. If an obvious error is inadvertently made, such as jamming the keys, explain the reason for the error and give a correct demonstration.

Pupils gain confidence in a teacher who can present an effective and well-planned demonstration. Here, the teacher can show how, rather than tell how. As John Ruskin wrote: "Teaching is a painful, continual, and difficult work to be done by kindness, by watching, by warning, by precept, by praise, but—above all—by example."

**Bulletin Board**

An attractive bulletin board is both a valuable teaching aid and a motivating device. For most effective use the bulletin board material should be changed at least every two weeks. The teacher will want to organize the first bulletin board display and retain a file of materials for this purpose. After the first two weeks of the school term, pupils can be appointed to change the materials.

A listing of materials* that can be used for bulletin board display follows:

1. Pupil Work—letter styles, envelope styles, carbon copies, outlines, reports, manuscripts, digests, and summaries.
2. Charts and Graphic Material—progress charts of different types indicating both speed and accuracy.
2. Honors and Recognition—pupils' names on honor rolls giving recognition for speed, accuracy, and greatest improvement.

---

* Doris Howell, "Motivating Devices in the Learning of Typewriting," *UBEA Forum,* 5:30, April, 1951.

4. Information—catalogues, literature, and samples pertaining to equipment and supplies.
5. Human Interest—pictures of authors at work, radio script writers, and typewriting champions and experts.

Howell's article also points out that a bulletin board in a corner might be called "Kartoon Korner" and could be used for business cartoons brought in by pupils or for special items that a teacher might develop.

### Textbooks and Related Materials

Success in teaching typewriting depends to a certain extent on the proper use of textbooks and related materials.

*Textbooks.* A textbook in typewriting classes is used almost daily; therefore, it should be chosen carefully by the typewriting teacher or a committee of business teachers. In comparing textbooks, each text should be analyzed by means of a check list. The check list should contain information on the organization of content, unit activities, illustrations, and physical make-up.

Teachers should not be a slave to a textbook because a text contains a great amount of material that doesn't need to be taught. It may be necessary occasionally to supplement the material found in the textbook. Textbooks cover general situations and often specific instructions by the teacher are needed.

When two or more schools in a community teach typewriting, there is no need to use the same text in each school. In one school a job can be accomplished by using one book, and in another school a comparable job can be done when a different text is used. A list of textbooks most commonly used may be found on page 73 of this publication.

*Workbooks.* Most publishers of business education textbooks have developed workbooks to supplement their textbooks. Workbooks are comparatively inexpensive and their utilization creates an office atmosphere in the classroom. They contain letterheads and other printed forms common to the business office. When workbooks are used, a smaller quantity of regular paper will be needed. Also, pupils will be encouraged to give more thought in making the first copy an acceptable one.

*Tests.* Textbook publishers also have developed tests to accompany their books. Tests, which usually sell for a nominal price, present realistic as well as challenging problems.

At least one publishing company has developed placement tests that can be used to advantage. For instance, if this test is given to a pupil who transfers from another school and has some background in typewriting, it helps determine his ability. The results of this test might

indicate that the pupil should begin typewriting during the second semester.

Typewriting examinations have also been developed by Delta Pi Epsilon, the graduate fraternity in business education. These examinations are referred to as Students Typewriting Tests and information about them can be secured by writing to the United Business Education Association, 1201 Sixteenth Street, N. W., Washington 6, D. C.

*Textbook Manuals.* Practically all high school typewriter textbooks are supplemented by a carefully prepared manual. These manuals are free of charge and are provided to schools that have adopted the text. Textbook manuals are often a veritable storehouse of information that can be helpful to all typewriting teachers. For instance, information may be found on teaching methods, grading scales, and the like.

It is important for teachers to review carefully the manual that accompanies the textbook they have adopted. The quality of instruction is often enhanced when some of the suggestions found in the manual are put into classroom practice.

*Reference Books.* It is advisable to have a dictionary or a book that gives the spelling and syllabication of words available at each typewriting desk or table. Pupils will have no excuse for mistakes in spelling or word division when books of this type are placed at each typewriting station.

There may be times when reference books are needed in a typewriting room. Therefore, the following ought to be available: two secretarial handbooks, two form books for manuscript or thesis writing, an atlas, an unabridged dictionary, a city directory, and a telephone directory.

Individual instruction is often necessary.

CHAPTER THREE

# Development Of Typewriting Competencies

It is difficult to pinpoint the course content that should be offered in first-, second-, and third-year typewriting. Although the course content varies from school to school, pupils should attain certain minimum standards. These standards should apply whether they take the subject for personal or vocational use.

Scientific teaching methods, improved instructional materials, and better equipment have reduced the time needed to teach this subject. Much of what is now taught in two or three years of typewriting should eventually be telescoped into a shorter period of time—one year. As will be noted in the section *Reduction of Time in Typewriting Instruction,* page 52, typewriting must be taught under ideal conditions to make the one-year period feasible.

In following the outline of this chapter, the material up to and including *Other Competencies* should be taught. Some of these competencies will need to be stressed more in vocational classes than in personal use classes and vice versa. A major portion of the period should be spent on forms, letters, and production typewriting in vocational classes, and on manuscript typewriting in personal use classes.

## Machine Parts

Rather than introduce most of the machine parts the first day, it is preferable to present them as they are used. It is advisable to have the line-space regulator, the margins, and the paper guide set on each typewriter the first time a beginning class reports to the room. There are several parts that need to be explained in the first session since they must be understood before any amount of typewriting can be done. These include cylinder knobs, paper release, paper-bail rolls, paper table or rest, carriage or carrier return, and space bar. They can be explained best by demonstration.

## Keyboard

Typewriting is a neuromuscular skill that involves the operation of a keyboard with a spatial pattern. Pupils must acquire a sense of distance and direction. The sight method, from the psychological point of view, is a more realistic way to teach the keyboard than the nonsight method. Therefore, pupils should look at the keyboard when each new letter, number, or symbol is introduced; this is a much better way to locate a new key than attempting to feel each key. When pupils have learned the location of each key, it will not be necessary for them to look at the keyboard.

The manner in which the keyboard is presented depends on the textbook that is used. A teacher should follow the method of introducing the keys described in the textbook; some exercises can be omitted, others need to be repeated according to class needs.

Experience has indicated that 10 to 15 periods should be spent presenting the keyboard. Generally three new keys are introduced each period. It is better to take too long to introduce the keyboard than too short a period of time.

In introducing the keyboard, the following should be borne in mind:

1. The ability to demonstrate properly is most important—the typing of every letter should be demonstrated.
2. The technique of proper stroking should be continually emphasized.
3. Words, phrases, and short sentences instead of nonsense syllables should be taught as soon as possible.
4. There should be an interval of two to three weeks between the introduction of the last of the letters and the number and symbol keys.

### Numbers

Since much of our typewriting today involves statistics, it is advisable to give pupils training in typewriting numbers. Time allocated by schools for typewriting courses is not sufficient for pupils to acquire the necessary vocational competency to become statistical typists. However, enough instruction can be offered so that pupils acquire a basic knowledge of statistical typewriting.

There are three methods of typewriting numbers: (1) home-row or traditional, (2) pipe-organ, and (3) third-row. In the home-row method, the fingers remain on the home row and move to the numbers when they are being typed. In the pipe-organ method, the right-hand fingers remain on the home row and left hand fingers move up to the number row. Here, the little finger controls the 2 and the index finger controls the 5 and 6. In the third-row method, the fingers of both hands move up to the next row. The left-hand fingers are placed over the Q, W, E, and R, and the right-hand fingers are placed over the U, I, O, and P. The number keys are typed by a reach from this position.

Experimental studies have been made to determine the best methods to use. Some of the findings are:*

1. Neither the pipe-organ nor the third-row method had a particular advantage over the home-row reach method unless the copy was composed predominantly of numbers.

* Lawrence W. Erickson, "Teaching the Number Row," *Journal of Business Education*, 32:24-25, October, 1956.

2. The shifting of both hands to the third row seemed to cause less confusion and waste motion than the shifting of the left-hand to the number row as is done with the pipe-organ method.

3. The number reach from the third row caused the students little difficulty since it seems to be nearly identical with the reach from the home row to the third row.

4. As the students developed additional typewriting skill, the third-row method allowed them to revert to the home-row reach method with little or no difficulty in those instances when there was only an occasional need for typing numbers.

5. The students trained by the home-row reach method had a distinct tendency to shift their hands to what approximates a third-row position so as to compensate for the difficulty of the reach to the number keys.

6. Students trained by the third-row method had a slight superiority in terms of rates over students trained by either the pipe-organ or the home-row reach method when all-number copy was used for measurement of number competency. The same results obtained from mixed copy was used for measurement.

7. Regardless of the method used, better results were obtained with all classes when the teaching of the numbers was delayed two to three weeks following the completion of the teaching of the letter keyboard. Most students needed this period of time to establish control over the letter key locations and the various reach patterns. This indicates that emphasis during this period should be on building good typewriting techniques.

8. When number practice was made a part of the daily typewriting practice plan, all students developed greater number competency regardless of the method used.

More experimentation is needed in this area. However, research indicates that the home-row method is best when most of the document is composed of words or sentences, and the third-row method is best when most of the document is composed of numbers.

Point 7 indicates that it is best to teach numbers two or three weeks after the letter keyboard is taught. It gives pupils a chance to build up confidence before making long reaches into the number row that are difficult for even teachers to make. One way to keep pupils continually practicing numbers is to have them type their name and the date expressed in numbers on each paper they place in the machine. An example of this is:

*Mary Smith*

*11-27-1962*

This pupil has developed good techniques.

## Proper Techniques

To become a successful typist, one must develop proper techniques. These need to be emphasized daily and carefully taught.

*Continuity.* Typing at a consistent, controlled, and sustained rate, the carriage or carrier of the typewriter moving smoothly and continuously, is referred to as continuity. The term continuity is preferable to rhythm or timing because it is almost impossible to type at an even or unbroken pace. This technique will develop a high degree of accuracy. Greater speed will come when the typist sees words as a whole and types them with constant motion and no waste movement—slower for unfamiliar or difficult stroking, faster for familiar and easy stroking. The ability to read copy has an important bearing on this technique. (This will be explained later.)

*Manipulative Control.* Manipulative control is handling the operative parts of a machine, other than the keyboard, while typewriting. The operative parts include the backspace key, the carriage or carrier return, the margin release, the shift keys, the space bar, and the tabulator key (bar). It is important that the teacher give pupils proper instruction and adequate practice in operating these parts. Proper instruction consists of a carefully planned demonstration.

The space bar is used more frequently than any of the other parts, yet some teachers spend little or no time in its presentation. California's typewriting course of study* points out that 20 percent of all strokes are made with the space bar, and the technique of operating the space bar necessitates careful attention. This publication recommends that the following points be stressed:

1. Only the thumb should move. The other fingers should be quiet. The tendency of the beginning typist to straighten the fingers of the hand and let them fly off the keys as the thumb operates the space bar should be corrected.
2. The space bar stroke should come immediately after the last letter of the word is struck. If the beginning typist needs to make a slight pause, the pause should follow the spacing stroke and not precede it.
3. The thumb should be kept close to the space bar to avoid excess motion of the thumb in making the spacing stroke. Considerable success may result if the student is taught to keep the side of the thumb touching lightly on the space bar. This reduces the up-and-down movement that some typists use in operating the space bar.
4. In operating the space bar, the thumb should be relaxed and travel in a short, loose, circular motion down and in toward the palm of the hand. Quick stroking and release of the space bar with a minimum of thumb movement should be stressed.

* *Guide for the Teaching of Typewriting, A.* Sacramento, California State Department of Education, September, 1952, p. 25.

Next in importance, from the standpoint of utilization, is the manual return of the carriage and the use of the shift key. Although little time is spent on the other three operating parts (backspace key, margin release, and tabulator key), carefully prepared instruction should be given. The backspace key and the margin release can be called, for want of a better term, emergency devices. Pupils should be informed that many secretaries develop eyemindedness for the right hand margin, which alleviates the use of the margin release.

Manipulative control is not as much of a problem on the electric typewriter as on the manual machine. This is especially true of the carriage or carrier return, the shift keys, and the tabulator key.

The use of these operative parts has an important bearing on the speed of a typist. When this technique is refined, it is often possible for a typist to improve his speed by five to ten words per minute.

*Posture.* A golfer needs to develop good stance, a swimmer good form, and a typist good posture. In the proper development of any motor skill, most learners flounder and go through all sorts of unnecessary motions. Those who are learning to golf, swim, or type often use muscles that should not be used; therefore, training that includes teacher demonstration is necessary. The importance of posture is explained in an article* by Guthrie, who points out the following factors.

A balanced body feels no stress or strain. When a muscle is under stress, it causes strain and the body is less efficient. The weight of the body from the hips up is supported by the backbone. When the back is straight, muscles are relaxed and there is no stress. That is why a posture chair that supports the small of the back should be used.

It is important, too, that the front of the chair seat does not touch the back of the knee joint. A chair seat that is too long will force the pupil either to slouch or to bind his knees, and thus hinder normal blood circulation.

Adjustable chairs should be used to insure proper height in relation to both the floor and the typewriter. Chairs of proper height enable the typist to place his feet flat on the floor so that his body is balanced and muscle stress eliminated. Proper chair height permits the typist's arms to slope upward. This reduces arm-muscle fatigue.

To obtain proper posture, Guthrie recommends that the typist should

1. sit with backbone straight.

2. have both feet flat on the floor (this helps to reduce muscle fatigue and is the first step in correct body balance).

---

* Mearl R. Guthrie, "Let's 'Make No Bones' About Improving Typing Posture," *Business Education World.* 38:36-37, October, 1957.

3. have thighs parallel to the floor (this reduces leg strain and improves body balance).

4. have the small of the back well supported.

5. have the forearms sloped slightly upward.

Pupils should be told that heavy or binding clothing on the arm presents a problem. When the sleeves of a garment are restrictive, the freedom of motion necessary for efficient typewriting is jeopardized.

To remind pupils of the necessity for good posture, place a posture chart in the front of the room. The pupils can check their posture by referring to the chart. Also, most textbooks contain one or two illustrations of a typist who has excellent posture.

*Reading Copy.* To make progress in typewriting, one must know how to read copy while typewriting. Rules to help a pupil acquire this technique are (1) keep eyes on copy, (2) concentrate on copy, and (3) read ahead in accordance with difficulty of copy.

One of the most difficult things a pupil has to learn after mastering the keyboard is to keep his eyes on the copy. Habitually looking back and forth from the copy to the machine inhibits progress, and this fact should be impressed upon the pupil. When a teacher notices that a pupil has the habit of looking up from the copy, he should count the number of times this is done during a five-minute writing and inform the pupil of his weakness.

Several methods can be used to encourage pupils to keep their eyes on the copy. One, have the ribbon indicator set on stencil and use two sheets of paper separated by carbon paper during a timed writing. Another, give a one- or two-minute timed writing and ask the pupils to look up at a certain object in the room after they have typed each line. Then, have the pupils take the same timed writing, keeping their eyes on the copy throughout. Compare the results of both timed writings.

The ability to concentrate is enhanced when distractions are held to a minimum. This is important because typewriting requires approximately 3.5 times as many eye fixations and regressions as an average reading. When it is evident that pupils are getting restless, a recess or class discussion for a few minutes is advisable.

The beginning typist will read one word at a time, spelling it out to himself if it is unfamiliar or long. As progress is made, the typist should read one or two words beyond what is being typed. Experts have said that the eye should be one second ahead of the hand.

As pupils gain more confidence they will not find it necessary to look at what they have typed or to see if their fingers are on the right keys, and slowly but surely these defections will be overcome.

*Stroking.* The new typist must learn to strike the keys of a typewriter quickly and without hesitation. This technique is known as stroking. A stroke of equal timing and equal force should be used and the fingers should be released rapidly. In proper stroking, the fingers are curved and kept near the home row, and the keys are struck with the finger tips.

The major difference in operating manual and electric typewriters is the stroking technique. Pupils who type on an electric machine will use a light tapping stroke. Those who are assigned to manuals will use a heavier staccato stroke.

Stroking is a technique that needs to be emphasized on the first day. It can be taught best by demonstration. Pupils will receive excellent practice in this technique when the teacher dictates letters such as *ffff, jjjj,* etc., to the class. The care taken in developing this technique is an important factor in the pupils' achievement.

### Speed and Accuracy

When pupils acquire good techniques, such as proper posture, progress can be made in both speed and accuracy. Faulty techniques, on the other hand, reduce speed and invite errors. For these reasons, it is necessary to stress the HOW in typewriting during the early part of the school term.

Speed and accuracy should be taught concomitantly—the one needs to complement and supplement the other. It is advisable to have daily alternating drives for each skill so they will develop gradually and consistently. By so doing the learner gains confidence and continuously improves in speed and accuracy.

Pupils should master the keyboard thoroughly before an exercise is given to test speed. Before administering a timed writing, advise the class to type the first few words slowly and gradually build up speed.

The copy used to develop speed in the early stages of typewriting should be easy to type. It might be copy from which the pupil has typed previously. Pupils build speed more rapidly by typing the same paragraph four times rather than typing four paragraphs once. As they gain in speed, the tests should become more difficult. In the early stages of instruction the length of a test should be relatively short—¼ minute, ½ minute, or 1 minute. As pupils progress, the length of time should be increased from three to five minutes and subsequently to ten minutes. A pupil who types 40 words in a one-minute test might type 35 words in a two-minute test, 30 words in a three-minute test, etc. Most tests given by civil service and private industry are of five- or ten-minute duration. Some business firms assign a 15-minute timed writing. This gives a prospective employe a more realistic picture of the daily requirements of an employer.

In an attempt to develop speed, the beginner should not be afraid of making errors. For example, the teacher should not inhibit him, yet not be so foolhardy as to give him the impression that errors are not important. It is doubtful if an analysis of errors made in timed writings while building speed will help pupils overcome any difficulties. Errors made under these circumstances probably would be chance errors that have neither a known cause nor a remedy.

Avoid repeating a timed writing until the pupils have analyzed the results in terms of speed and number of errors on the initial drill. When a timed writing to develop speed is given, precede and follow it with a lesson on accuracy. Drills for speed always include timed writings; drills for accuracy sometimes include timed writings.

The goal in typewriting is accurate work completed in the least amount of time. Requirements for accuracy are necessarily high. Pupils need to be encouraged in an accuracy drill to decrease the stroking rate that they used in their drive for speed. When pupils are asked to decrease their stroking rate or to slow down, they frequently type as rapidly as they did in a speed drill. Telling them to slow down eliminates tension, and basically, this is what a teacher wishes to achieve. "Let's type smoother," is preferable to saying "type slower." Slowing down or dropping back is psychological, and teachers should check eyes, fingers, shoulders, and wrists for tension.

Although accuracy is an ideal and not always achieved, pupils should constantly strive for copy that is free of errors. Careful mental control, concentration, and poise lead to accuracy. Pupils frequently make mistakes because they type faster than their ability warrants. Typewriting classes should be encouraged to type easy letters or words rapidly, for example, *this is the;* and difficult letters or words, such as *minimum,* slowly. This should not have an adverse effect on the continuity. Information about analysis of errors may be found on page 20.

The early timed writings for speed and accuracy should consist of short words with stroke intensity no greater than five. This is much more important than syllabic intensity that affects speed and accuracy only to a limited extent. Word frequency and letter combinations also are important in determining the difficulty of typewriting copy.

### Drills

Since typewriting is a skill subject, frequent drills are necessary. Pupils should understand the purpose of the drill as well as the necessity for repetition. If the teacher develops this understanding, the pupils will respond and benefit from them. In addition to the numerous exercises given in speed and accuracy, it is advisable to give other types of drills, such as:

1. *Warmup Drills.* Assign these at the beginning of each period for practice. The drill can be placed on the chalkboard, or an exercise from the text can be used. A short daily drill establishes order and enables the teacher to take the roll and help pupils who may be having trouble with their typewriters. Occasionally the teacher should check and record the number of lines in the drill that each pupil has typed.
2. *Direct Dictation.* This employs another means of learning—the auditory sense. By using this drill occasionally, pupils are not as apt to become frustrated when copy is not used. Teachers start with two-letter words, then go on to longer words, sentences, and paragraphs. Such a drill develops concentration and retention, improves spelling, and enhances pupil ability to compose at the machine. It is important that pupils do not begin to type until the teacher has ended the phrase or sentence. Also, a teacher should not start dictating until all machines are quiet.
3. *Technique Drills.* These emphasize manipulative controls such as the backspace key, the margin release, the shift keys, the space bar, and the tabulator key. Include drills on continuity, proper stroking, and reading copy. A technique drill should be designed to improve the manipulation of one technique, not the combination of two or more.

Teachers should pay more attention to what drills do to pupils rather than what pupils do to drills.

**Tabulation**

Tabulation (typing statistical material) can be set up by using either the backspace method or the mathematical procedure. Experience incates that most pupils can set up a tabulation problem in less time and with fewer errors by using the backspace method. Textbooks explain the use of these procedures.

In starting work on tabulation it might be advisable to begin with an exercise that has a few small numbers and words, such as:

| | | |
|---|---|---|
| 1 | day | we |
| 2 | will | have |
| 9 | top | athletes |
| 2 | play | ball |
| 4 | our | team |

Encourage pupils to memorize these and then to watch their fingers or the typewriter as they type the information in columns. When a drill of this type is completed, the pupils can work on exercises similar to those found in textbooks.

It is not always necessary to figure out the spacing of tabulated material. After a typist has had experience in tabulation, he frequently approximates the spacing. This should be pointed out to the class.

## Erasing

Teaching the proper way to erase is important from a psychological point of view. When a pupil has confidence in his ability to make a good erasure, his errors will not be caused by fear of making a mistake. As this fear is alleviated, the number of errors will be reduced and he will type with greater accuracy and speed.

Erasing is considered a tool of production. It should not be introduced too early. Since many pupils take typewriting for one semester, it is advisable to teach this competency at the end of this period.

First, explain what to use to make an erasure.

1. *Soft eraser* (generally red). These are referred to as pencil erasers and can be used to remove the damp ink on the original copy and the impression on carbon copies. Often it is not necessary to use a hard eraser on carbon copies.
2. *Hard eraser* (an ink eraser). These are available in various shapes and usually contain a certain amount of grit. In business offices a gray pencil eraser or eraser stick is often used. Schools frequently use a round gray eraser with whisk brush because it costs less. Use a hard eraser on the original copy, especially if the paper is heavy bond.
3. *Eraser shield* (a perforated plate made out of metal, plastic, or some other substance). This is used when an erasure needs to be made in a very small area; for instance, a letter in the middle of a word. The shield also keeps fingerprints from copy.

Second, demonstrate how to erase and correct the error.

1. Depress the margin release key and move the typewriter carriage to the extreme left or extreme right. This step is not necessary on a typewriter which has a stationary carriage.
2. Turn the platen forward when the erasure is to be made at the top or middle of the paper, or backward when the erasure is to be made at the bottom of the paper.
3. Use an eraser shield and erase by using a movement away from the machine. To avoid rubbing a hole in the sheet, lift the eraser after each stroke to see what has been erased.
4. Return to line of typing and make the correction by using normal stroking.

It is also important to demonstrate how to reinsert paper in the typewriter to correct a mistake that was not noticed until after the paper was removed from the machine. Inform the pupils that it is sometimes advisable to correct a mistake after the paper has been removed from the machine; for instance, a letter or word that was inadvertently typed at the end of a line.

There are occasions when original type should not appear on a carbon copy, i. e., when it is sent to an important customer. If a correction is to be made on the carbon copy after it is removed from the machine, the carbon copy is erased, placed in the machine, and lined up properly. Then a piece of carbon paper is placed in the proper position and the key/s are struck on the carbon paper. When the paper is removed, the type should be uniform.

Third, distribute necessary supplies and have the pupils practice erasing. Observe them carefully to see whether they are erasing correctly.

Explain how to spread and crowd letters that need to be adjusted because of an error, and provide opportunities to make this type of correction.

Tell the class that it is not always necessary to erase an error. If the letter *c* instead of *d* is typed, the error can be corrected by simply typing over the *c*. In other instances it is necessary to erase only part of what has been typed. If the letter *n* instead of *h* is typed, a very small portion of the *n* can be erased.

Pupils should practice using erasing papers—a new product that is available. To correct an error, the typist places a strip of correction paper in front of the mistake, retypes with the same keys to blot out the error, removes the erasing paper, and types the correct letter. Typewriters will not get dirty with erasure debris when corrections are made in this manner. For one who does a considerable amount of typewriting, correction paper is a "dream come true."

Mistakes on a business letter, or any document commonly typed in an office, should be corrected neatly, complying with the standards observed in business. The ability to make a neat correction is an asset to any typist. The conservation of time and paper represents a substantial saving to any business over a period of time.

### Composition

Pupils need training to develop competency in composing on a typewriter. This training may be started during the first semester on occasions when only a few minutes are left in a period. For instance, pupils can be given one minute in which to type as many games or sports as they can think of, the streets in their city, etc. Composition at the typewriter should progress from writing one word to writing simple phrases, then sentences, then paragraphs, and finally, a page. Most teachers assign paragraph work too soon. A good method of introducing sentence work is to have pupils write sentences such as:

My favorite sport is .....
My favorite color is .....
My favorite hobby is .....
My favorite friend is .....

With this background, pupils should not find it too difficult to learn to type letters, notes, etc., on a machine.

### Proofreading

When pupils are ready to be taught how to erase their typing errors, they should also be ready to proofread their work for errors in capitalization, spelling, punctuation, and the mechanics of what they have typed. It is important that typists recognize and correct errors in their work. Perfection in typewritten work is expected of typists—the ability to proofread helps them achieve that perfection.

Pupils have little or no desire to proofread, so desire must be created. For this reason proofreading is a skill that must be taught on an organized basis. A desire to proofread can not be developed by simply asking pupils to read their work before it is submitted. Consider the following when instruction is offered in proofreading.

1. *Need for Proofreading.* Proofreading is an important part of the work of all secretaries, stenographers, and typists. Therefore, it is an ability that potential employes must acquire. Lack of this skill will cause frequent embarrassment, to say nothing of the possibility of losing one's job.
2. *Method of Teaching Proofreading.* Set aside a few minutes each day, several days a week, for instruction in proofreading. Interest can be aroused by duplicating letters and other manuscripts that contain errors. Distribute these to the class and challenge the pupils to locate as many errors as possible in a given period of time, such as a minute. After the time is up, discuss the item that the pupils analyzed. This process can be repeated several times. Care should be taken that errors are not too obvious.
3. *Proofreading Procedures.* Before a letter or other document is removed from the typewriter, it should be read for meaning. The paper bail can be used for proofreading the typewritten sheet rolled up one line at a time. This is the time to detect words that are omitted or misused and other obvious mistakes. When the letter is taken out of the typewriter, it should be checked again for the following:

   Date of letter and any date in the communication

   Spelling of addressee's name and address

   Structural elements such as paragraph indentation, subject line, attention line, etc.

   Capitalization, punctuation, and spelling

   Grammatical errors, especially subject-predicate (noun-verb) agreement

4. *Need for Proofreading Team.* There are times when it is advisable to proofread work with the assistance of another person. This includes stencils, tables that contain figures, and important documents that must be checked word for word with the original copy. It is generally agreed that the typist should read the original document and the second person check the typed copy. By doing this, the second person may note a spelling error that the typist missed because he habitually spells certain words incorrectly. Also, it is always easier to locate errors that another person makes.

5. *Bulletin Board.* Encourage pupils to bring to class, for bulletin board displays, business letters with uncorrected errors that they or their families have received. Typewriting teachers receive many letters of this type that can be exhibited. Newspaper clippings and magazine articles that contain errors resulting from inadequate proofreading can also be placed on the bulletin board.

### Changing Ribbons

In presenting the first lesson on this phase of instruction, it is important to give a carefully prepared demonstration on how to change a ribbon. During the practicum pupils can do this by working in pairs or by taking two ribbons and changing them back and forth. Also, the teacher can secure from the vendor of each typewriter a check list that pupils can use as a guide. It may be necessary to make a slight revision of each check list so the first point reads as follows: Examine how ribbon is placed in ribbon carrier and how it operates.

Pupils ought to practice ribbon changing at least once a month after this instruction has been given. Timings should be given to see if they can remove and replace the ribbon in a given period of time. It takes from 15 seconds to 3 minutes to change a ribbon, depending on the make and/or kind of typewriter.

### Other Competencies

Selden* pointed out that every trade has its "tricks" and typewriting is no exception. The following are "tricks" he described in this article:

> Copy of Two-Page Letter. There are occasions when a typist writes a two-page letter and uses two sheets of onion skin paper for the file carbon copy. If the two sheets of onion skin are used, they will need to be stapled or paper clipped together. Many high school graduates in business education may not realize that it is possible to turn the onion skin paper over and type the carbon copy of the second page of the letter on the other side of the

* William Selden, "Tricks-of-the-Trade for Beginning Typists," *UBEA Forum,* 13:21 and 23, April, 1959.

onion skin paper and thus save file space and paper. This simple explanation and illustration by the teacher may save employers money, time, and space.

Typing on Bottom of Page. Sometimes it is necessary to type at the extreme bottom of a page; this is particularly true if a form is to be completed. To prevent the paper from slipping, run another sheet of paper behind it. This additional page should be inserted between the platen and the paper that was originally placed in the machine. This will give necessary backing to the paper on which one is typing. In a carbon pack the paper is placed in the center between the back of the copy and the noncarbonized surface.

Chain Feeding Envelopes into Front of Typewriter. Most typists know how to chain feed envelopes into the back of a typewriter. However, some experienced typists believe it is faster to chain feed envelopes into the front of a typewriter. The reason is that when envelopes are put into the front of a typewriter it is possible to accumulate approximately 15 of them in the back of the machine before removing them. Here, envelopes accrue in chronological order which makes stuffing speedier. When envelopes are chain fed from the back, it is necessary to individually insert as well as take the envelope out of the typewriter.

Rush Jobs. Occasionally while one is typing a lengthy report it is necessary to type a telegram immediately. This can be accomplished without taking the report out of the machine by backfeeding it until approximately an inch is showing. The first sheet of the telegram is placed in back of the paper rest, and a piece of onion skin paper is inserted against each piece of carbon of the original work in the typewriter. Next, the cylinder knob is turned so the telegram is brought into position for typing.

Inserting Letters and Reports with Multiple Carbons. Since businesses demand numerous carbon copies of letters and reports, it is imperative that typists know how to insert this material in a typewriter with a minimum amount of effort and with the certainty that the onion skin paper will not slip out of place. The best way to do this is to insert the carbon pack in the flap of an envelope and roll it into the machine. This procedure will insure that the onion skin paper will not slip. It will be necessary, of course, to remove the envelope from the machine before typing.

Reinserting Documents in the Typewriter. Although a manuscript may have been proofread before it was removed from the typewriter, it may be necessary to reinsert it to make a change or to rectify a mistake that was made. When a manuscript is reinserted, the typist should line up the paper horizontally and vertically. This can be accomplished with practice and by becoming thoroughly familiar with the aligning scale on the machine which one is using. The aligning scale is somewhat different on the various makes of typewriters.

If it is necessary to correct a mistake on a page in a manuscript which is stapled or bound on the top, it is possible to do so by (a) inserting a blank sheet of paper into the machine, (b) placing the page that needs to be corrected in the front of the platen and under the blank sheet, and (c) turning the platen in reverse and bringing the page which needs to be corrected into line.

Additional competencies or tricks-of-the-trade are:

*Inserting Letters and Reports with Multiple Carbons.* Insert paper pack only, turning cylinder enough to hold paper in platen (2 or 3 lines). Pull entire paper pack forward. Separate last two sheets of paper and insert carbon sheet with glossy side to front. Proceed in this manner until all carbon sheets have been inserted. Then roll entire pack into machine. Carbon will extend at bottom of pack and can be removed by pulling down with one motion.

*Placement Scale.* A simplified letter placement scale which requires a memorization of only six numbers—1, 2, 3, 4, 5, 6—follows:

| | *Short* | *Medium* | *Long* |
|---|---|---|---|
| Words in Body of Letter ..... | 1⁰⁰ | 2⁰⁰ | 3⁰⁰ |
| Length of Line ..... | 4″ | 5″ | 6″ |

Here, the space between the date and inside address of a short letter is 2 inches, medium letter is 1½ inches, and long letter is 1 inch.

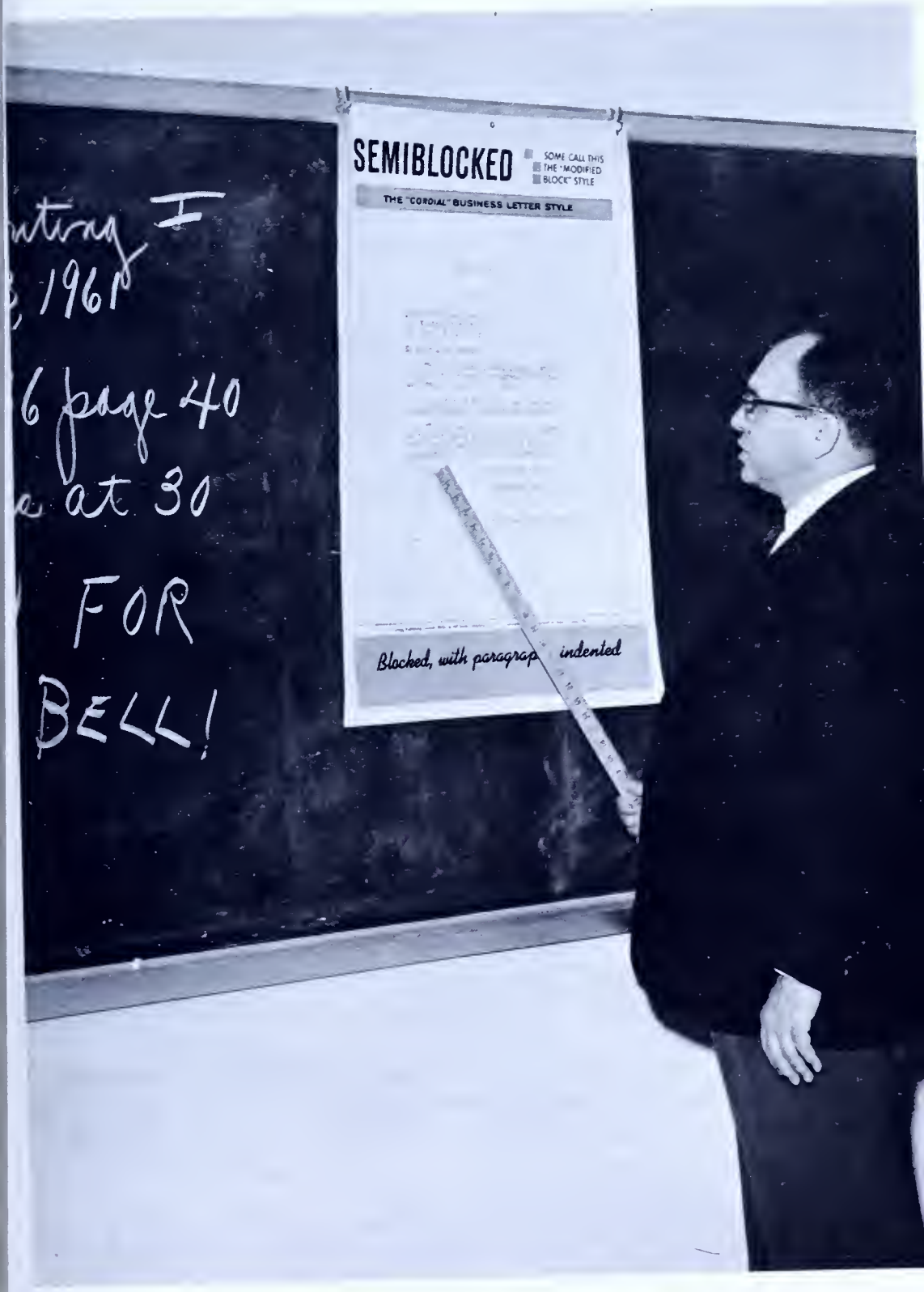
### Forms

A clerk, stenographer, or typist is called upon frequently to complete different types of forms. Therefore, instruction should be as realistic as possible. Forms are available in typewriting workbooks that supplement some textbooks. It may be possible to secure forms from different business establishments. Some local chapters of the National Office Management Association (NOMA) collect forms used by business and distribute them to schools in the employment area.

Inform pupils that it is advisable to refer to a previously completed form when typewriting a form from rough-draft material. The form that was completed previously can be inserted in the machine for the purpose of resetting the margins and tabs. This will save time as the place where each item is started has been determined.

### Letters

It is important that letters be neat and attractive in appearance and the contents accurate and well stated. Letters reflect on the office where they originate as well as on the typist and the person who dictates them. A good letter is an excellent public relations medium because often the only contact a person has with a given industry is through correspondence.




Sample business letters attract interest and should be displayed from time to time.

Although there is a degree of uniformity in business correspondence, the style of letters varies from office to office. While teaching the principles of typewriting business letters, the teacher ought to discuss the trends that are taking place in this area. Rowe*, in a survey of 10,000 business letters, pointed out discernible trends in business correspondence. *For example:*

1. Fewer abbreviations, with the exception of Mr., Mrs., C.O.D., a.m., and p.m., are used. The names of states (North Carolina instead of N. C.) and the first name of individuals (Thomas G. Smith instead of T. G. Smith) are written in full.
2. Elite type appears more frequently than pica type, and many more letters are prepared on electric typewriters.
3. Direct salutations such as "Dear Mr. Brown" are replacing formal salutations such as "Dear Sir."
4. The complimentary close "Sincerely yours" is more common than "Yours truly" or "Very truly yours."
5. A greater quantity of statistics appears in business letters.
6. Business letters are becoming shorter; more than half of them contain less than 75 words. Introductions such as "This acknowledges your letter of . . ." are being eliminated.
7. Ending of letters is simplified by omitting the name of the company and the dictator's initials. Instead of using three letters in the initials, typists are using two letters.
8. Irrespective of the length of a letter, the length of a line is becoming uniform. This avoids resetting margins.
9. Uniform size stationery is more widely used because small pieces of paper become lost in the files.
10. Colored stationery and colored type have virtually disappeared in business correspondence.

A recent cursory study of approximately 1,000 letters confirms that these 10 trends are still valid and directs attention to the following additional trends:

1. The majority of communications are either full block or modified block, and the trend is to full-block letters.
2. Generally, punctuation is not used after the salutation or the complimentary close in the full-block style letter.
3. The NOMA (National Office Management Association) simplified letter is used more frequently. This is a full-block style letter that omits the salutation and complimentary close. A subject line in capitals appears in this communication.

* John L. Rowe, "New Developments in Business Correspondence of Special Interest to Typewriting Teachers," *UBEA Forum,* 11:25-26, & 40, February, 1957.

### Manuscript Typewriting

Manuscript typewriting is not too different from other kinds of typewriting, but it necessitates following some carefully prescribed rules and regulations.

1. Manuscripts should be double spaced and typed on one side of 8½″ by 11″ paper.
2. The title on the first page should be in capital letters and the top margin of this page should be 2½ inches.
3. A hyphenated word should not be the last word on a page. A hyphenated word at the end of more than two consecutive lines should be avoided, if possible.
4. A paragraph should not be divided so there is one line on the bottom of one page or on the top of another.
5. A two-inch margin is needed on the left when the manuscript is bound on that side, and a two-inch margin is needed on the top when the manuscript is bound at the top. Other margins should be one inch.
6. Titles of books, periodicals, and research papers should be underscored. Titles of chapters and articles should be placed in quotation marks.
7. After the first page, each sheet should be numbered in the center on the top. When manuscripts are bound on the top, the pages should be numbered at the bottom.
8. A complete title page includes the following: title of manuscript; name of course, instructor, pupil, and school; and date submitted.

In addition, give detailed instruction about footnotes. This should include numbering, use of abbreviations such as *Ibid.,* uniformity in typewriting, etc. The footnotes in this publication provide an example of how they may be set up.

### Production Work

Production work is a practical application of basic skills that are acquired in the course coupled with what has been learned while typewriting letters and tabulated materials from sample copies. Production typewriting is not straight copy work; it is the ability to plan and organize materials that have been written in rough form or that deviate extensively from available typed or printed material.

As near as possible, office conditions should be set up when the class is doing production work. This implies that a time limit should be placed on all problems. Also, a minimum amount of direct help should be given in order to wean pupils from their dependence upon the teacher. The problems that are assigned should include work in assembling and

organizing materials, making computations, checking data carefully, proofreading, and making needed corrections. Material that contains errors should not be accepted; erasing should have been taught prior to a unit of work in this area and should be required in production typewriting.

As a result of this experience, pupils should be able to type faster and more accurately, to follow oral and written instructions, and to pay closer attention to details. Since pupils are constantly working under pressure, they gain emotional stability from production typewriting when they are successful in the work.

The amount of time to devote to this phase of work has not been resolved. It is understood that some schools spend a full year on production typewriting. Other schools spend a much shorter period of time.

In a study, "The Effect of Emphasizing Production Typewriting Contrasted with Speed Typewriting in Developing Production Typewriting Ability," completed at the University of Pittsburgh, Crawford indicates that comprehensive typewriting skill is improved when production typewriting is taught properly. This study also states that instruction which puts more emphasis on production than speed results in better straight copy skill.

An abstract* of Crawford's dissertation brought out the following:

> To realize maximum growth in production typewriting ability, a method of teaching emphasizing efficient production techniques and procedures rather than speed building is preferred. Greatest gains in production performance were achieved in all instances by testees taught by the production-emphasis method; that was true when computed for equated group performance as well as for the performance of matched individuals. Production typewriting ability appears to be more successfully developed through the production-emphasis method especially designed for that purpose than through the traditional, speed-emphasis approach which places maximum stress upon speed of producing key strokes.

However, one piece of research concerning the transfer of straight-copy skill to typing different kinds of production problems indicated that the time spent on this phase of work is difficult to justify. In an experimental study using the term "problem typewriting" rather than "production typewriting," Penar** stated:

---

* Thomas James Crawford, *Production Typewriting*, Monograph 97, Cincinnati, South-Western Publishing Company, March, 1960, p. 20.

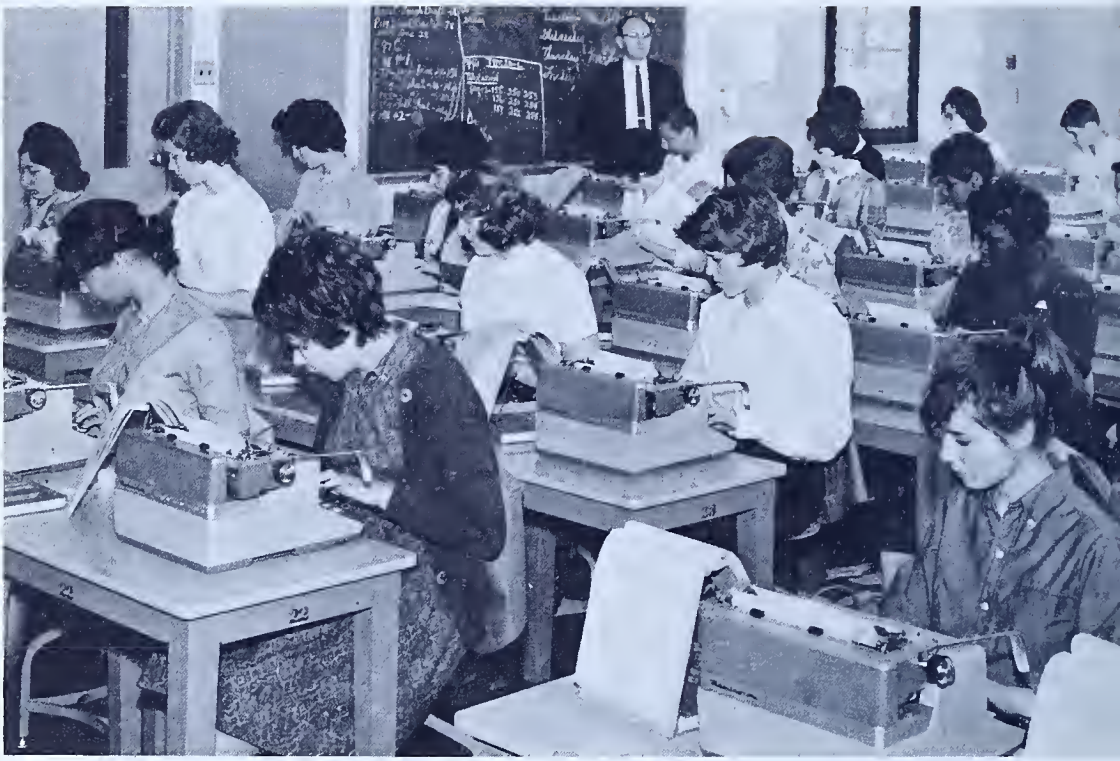
** Thaddeus H. Penar, "The Relationship Between Test Scores on Straight-Copy Typewriting and Test Scores on Selected Typewriting Problems," (unpublished Doctor's dissertation, the University of Pittsburgh, Pittsburgh, 1953), Pp. 56-57.

In general, added training in typewriting is accompanied by an improvement in both straight-copy skill and problem typewriting skill. The improvement in the problem typewriting skill, however, is so modest that one must question either the method of teaching problem typewriting or the advisability of expending time to bring about such modest improvements. If ineffective teaching methods were being used and effective methods were substituted, one would expect relatively large increases in the percentages of transfer from straight-copy speed to problem work from semester to semester. That, however, does not appear to be too likely a prospect; there just is not too much room, mathematically speaking, for large increases.

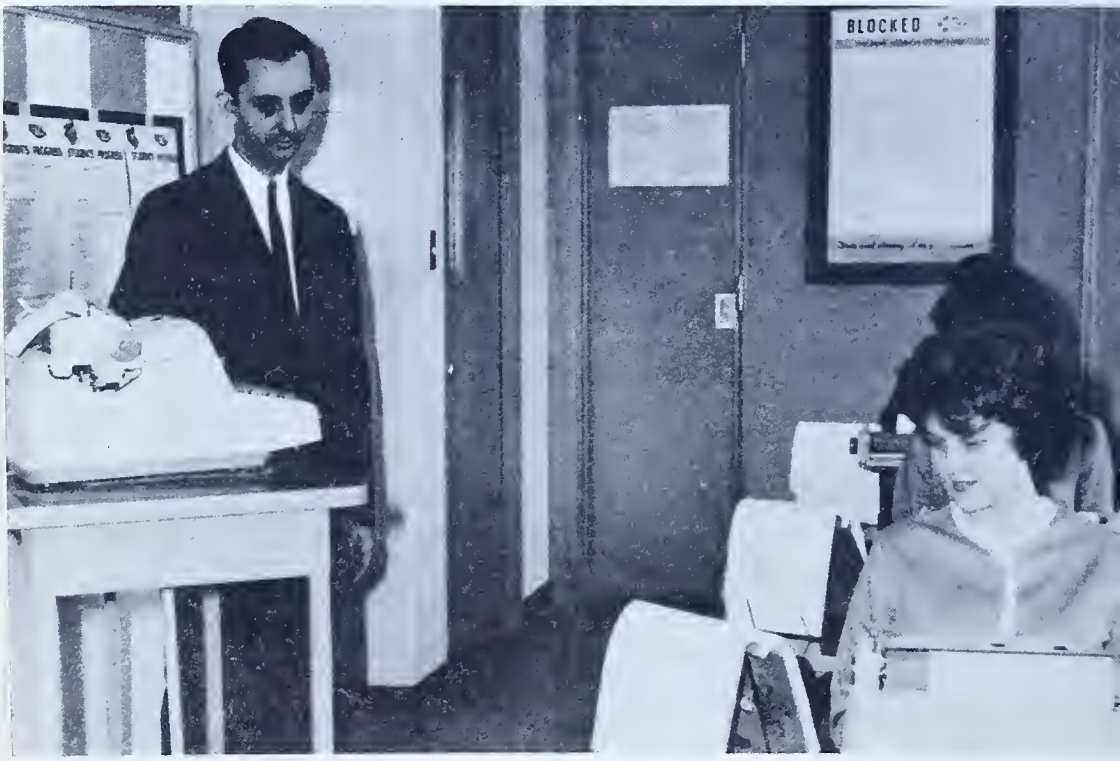
In production work it is necessary for pupils to acquire experience in making decisions. This can be provided by assigning exercises similar to the following:*

1. Set up tabulations from copy that is completely unarranged. (Most students do not receive enough training in this kind of job.)
2. Type material from instructions, without having any actual kind of copy. (Teachers don't like such jobs, as there is no key for checking papers! If we are going to teach THINKING and decision-making, though, we'll have to do more of this kind of work.)
3. Type rough-draft material, making all corrections and setting it up perfectly.
4. Type material that contains errors which are not indicated in any way. (If a typist is to advance on the job, he will have to do such work.)
5. Assign projects, such as programs, menus, poems, bibliographies, and so on. Require students to set them up properly and attractively from unarranged copy.
6. Dictate such jobs as tabulations and portions of manuscripts. Then require students to set them up correctly.

* Leonard J. Porter, "Typing Drills and Helps," *Business Teaching Aid No. T-4.* Englewood Cliffs, Prentice-Hall, Inc.



The teacher should observe the pupils so that he can give individual assistance to those who need it.




The use of electric machines is a major trend in typewriting instruction.

CHAPTER FOUR

# Typewriting Trends

Many changes are taking place in the business office as a result of increased volume of paper work that necessitates a greater amount of typewriting. Office automation also has necessitated many changes, the most important of which is data processing where information is placed into computers by a typewriter or a key punch that has a typewriter keyboard. This creates a demand for typists who are accurate and have a high degree of speed. The most significant trend is the change from manual to electric typewriters.

## Makes of Machines

One of the discernible trends in typewriting is to have all typewriters in a room of the same make. This applies to electric and manual typewriters. One of the reasons for this is the reduction in the cost of maintenance—many typewriter repairmen work on only one make of machine. Schools with three or four makes of typewriters in one room are finding the cost of repair work prohibitive unless a general repairman can be secured to take care of all the machines.

Having only one make of typewriter in a room facilitates the work of the teacher and improves the quality of instruction. The teacher need not waste valuable teaching time in explaining the mechanics of different typewriters. Instruction in various makes of machines may be offered in an office practice class. Many machine parts, such as marginal stops, vary from one machine to the next.

Typewriters are manufactured in different colors, with open keyboards, and with elite type. A discussion of these may be found on page 60.

## Replacement of Manual Typewriters by Electrics

Representative Jones of Missouri made the following statement* in the United States House of Representatives: "I think with the progress that has been made in the development of office equipment, we have found over the years that electric typewriters have become the generally accepted efficiency machine."

A publication** prepared for the American Bar Association indicated the following which is pertinent to this chapter:

---

* *Congressional Record.* Volume 102, Number 23, February 9, 1956, P. 2114.

** *Modern Equipment Makes the Lawyer Money, American Bar Association Economics of Law Practice Series.* Pamphlet Number Three. Pp. 9-10.

Electric typewriters offer numerous advantages. They are faster, produce more uniform work and, compared with standard manual models, require less than one-twentieth the amount of physical energy to operate. Because of the clean uniform impression, they do a superior job in cutting stencils; they also greatly increase the number of clean legible carbon copies that can be made. This will often eliminate the need for recopying, or the use of stencils, to obtain 6 to 10 legible copies. Especially when equipped with carbon ribbon attachments, electric typewriters considerably improve the quality and appearance of finished work.

Although the cost of the electric machines is roughly double that of the manual models, their increased speed and efficiency and the improved appearance of the work produced have led to a marked growth of their use in law offices and in business generally in recent years. Office management studies indicate that the net production of typists using electric typewriters is substantially greater than those using manual machines. The reduction of typing time and operator fatigue, which they make possible, means a saving in overhead expense that fully justifies their higher initial cost and somewhat increased servicing requirements.

Typing time costs money. If a typist using an electric machine can turn out more material per hour, the overhead is reduced. Very simply, this means more dollars in your pocket.

Electric typewriters have thoroughly proven their efficiency. A number of excellent makes are on the market with a variety of different faces available to meet particular needs or individual tastes. Some models feature special spacing arrangements which improve the legibility of the typed material and simplify the making of corrections by the typist.

In a booklet* prepared by the National Education Association's Department of National Association of Educational Secretaries, the following is stated:

The most widely used machine in the office is the typewriter. Fifty-four percent of the NANCIES [Educational Secretaries] reported use of electric typewriters, while 20 percent of the others *wanted* [italics in the original] them. It is generally conceded that manual typewriters are adequate for offices with little typing. The electric machine is preferable when the typewriter is used more than three hours per day, or when many stencils or carbon copies are made. The advantages of the electric are the ease of operation, the uniformity of copy, increased length of service, less fatigue to operate, and rapidity of typing.

Use of a manual typewriter versus an electric typewriter is like a bus versus a plane. Both get you there, but by plane you go farther and faster with less fatigue.

---

* *Plan Your Work . . . and Do It!* Washington, D. C., National Association of Educational Secretaries, A Department of the National Education Association, 1959, p. 15.

The material that has been quoted is from impartial sources—those who have no affiliation with the office equipment industry—which strengthens the premise that electric typewriters are superior.

### Use of Television

Typewriting is one of many high school subjects which has been telecast. Experience has indicated that in most cases typewriting for personal use can be taught by televised instruction. People from 8 to 80 have learned to type by taking advantage of television programs that offer instruction in this subject.

This method of presentation, however, has not been satisfactory for vocational instruction in typewriting. Pupils whose career objective is to become a stenographer or a typist need individual instruction in proper posture, setting up business letters, typing forms, and the like, which televised instruction normally does not provide. Instruction via television places the responsibility of learning on the pupil; consequently, it does not offer the type of motivation that individual instruction provides.

With technique changes and new equipment in television, many advances are being made which eventually may make it possible to teach vocational typewriting via television effectively. Kelly* pointed out some of the teaching techniques that might be used when television sets are available for classroom instruction.

> 1. *Use of Television as a Mirror To Highlight Incorrect Technique.* Each student was shown televised pictures of his hands as he typed previously memorized sentences and drills. As he observed his hands on the television screen (monitors), instructions for correcting poor techniques were given. All students were exposed to this method as many times as was necessary to correct faulty patterns. In addition, all students analyzed the techniques of each member of the class so as to gain a thorough understanding of good typewriting techniques. Analysis and discussion of good and bad typewriting techniques were carried out in class as the camera was focused on an individual student and his stroking techniques and finger position on the keyboard were shown on the monitors.
>
> 2. *Use of Television To Control and Increase Speed.* A camera was placed directly over the instructor's typewriter in order to transmit to the monitors each character that was typed. As the instructor typed, the typed copy which he produced was magnified so that it could be seen easily on the television screen from any typewriting station in the room. Students were instructed to typewrite the words as they appeared on the monitors. In this way the students' stroking rates were controlled. Thus, if the instructor was typewriting at 60 words a minute, all students in the class were forced to typewrite at the same rate . . . This

* Edward C. Kelly, "Television in the Typewriting Classroom," *UBEA Forum,* 15:14-15, November, 1960.

procedure aided appreciably in increasing the students' accuracy since it seemed to lead to a high degree of individual student concentration and forced control.

3. *Use of Television To Teach Letter Placement and Tabulation Arrangement.* In less than one-half of the time . . . used to teach this type of work, students were taught letter placement and they learned to type the various letter styles. The same was true for the tabulation problem work. Using the techniques described to control and force speed, the instructor typed through a particular problem. This copy appeared on the television screen as it was typed. The students typed the same copy as it appeared on the television screen.

One of the important lessons that business education has learned from televised typewriting instruction is that a great number of hours are needed to prepare for one lesson. Professionally trained typewriting teachers have been known to spend 12 to 15 hours preparing for a 30-minute lesson to be telecast. Although the classroom teacher does not use such time-consuming techniques, the importance of adequate preparation cannot be overemphasized.

### Reduction of Time in Typewriting Instruction

A school in the eastern part of Pennsylvania recently reduced the typewriting course for vocational business pupils from two years to one year. The pupils who took typewriting for one year did almost as well as those who had the two-year course. Many business educators question whether enough progress is made in second-year typewriting to justify it. A point of diminishing returns sets in rapidly at the end of the first semester.

To teach typewriting effectively in one year will necessitate conditions that do not exist in many schools. For instance, all of the typewriters should be electric and of the same make. Work for the school and the community will need to be held to a minimum. Also, pupils must attend class daily and not be excused to practice for a school play, a band concert, and the like.

The foregoing makes it evident that the public secondary schools of Pennsylvania need to make a careful study of their instructional program in typewriting. Schools that offer this subject for more than two years should takes immediate steps to shorten the course. That schools can not educationally justify this long period of instruction is brought out in a course of study on typewriting* which indicates:

> There is considerable evidence to justify the contention that much time is wasted in teaching typewriting. Results of time-and-motion studies support this claim. Inefficient teaching procedures and classroom organization appear to be the main causes of prolonged typewriting courses.

* *Business Education Course of Study—Part II, Typewriting.* Richmond, Virginia State Department of Education, 1950, p. 11.

CHAPTER FIVE

# Electric Typewriters

The information on page 49 under the title, *Replacement of Manual Typewriters by Electrics,* points out that manual typewriters are rapidly being replaced by electrics. In 1950 approximately one typewriter out of twenty that industry purchased was an electric. In 1960 it was approximately one out of two. It is probable that by 1970 very few business offices will be using manual typewriters.

This trend was explained in a nationally circulated business magazine:*

> The market for the industry's old bread-and-butter item, the manual standard typewriter, is coming apart. In the last 10 years, manual standard sales in the U. S. have dropped 40%. Most of this market has just shifted over to electrics . . .

Unfortunately, the percentage of electric typewriters purchased by schools is much smaller. If this continues to be the case, schools will not have facilities commensurate with those of business establishments.

## Use of Electric Typewriters by Business

The preceding information indicates that in a 20-year period (1950 to 1970), business will change almost completely from 100 percent utilization of manual typewriters to 100 percent utilization of electric typewriters. There are numerous reasons for this change.

First, production is as much as 20 percent higher: 4 typists can do approximately the same amount of work formerly done by 5. This is important because of the scarcity of office employes and the larger salaries paid them.

Second, the appearance of a letter or manuscript typed on an electric typewriter is far superior to one prepared on a manual machine. Uniformity of type means a great deal in a business letter because this may be the only basis on which a prospective customer or client will form an opinion of a given business.

Third, many more carbon copies can be prepared. This often alleviates the need to type a document twice. An impression control key is standard equipment on all electric typewriters, and the typewriting bars will strike more lightly or more heavily as this key is regulated.

Fourth, fatigue is reduced when work is done on an electric typewriter. This is important where secretaries, stenographers, and typists often type for many hours. Once an employe uses an electric machine he seldom wants to return to a manual.

---

* "Modernizing Fever Hits Typewriter Plants," *Business Week, March* 18, 1961, P. 126.

## Use of Electric Typewriters in Schools

The foregoing indicates the advantages of using electric typewriters in the business office. There are also numerous advantages in the classroom.

First, electric typewriters are similar to the machines that are more apt to be used in a modern office. One of the principles of vocational education is to teach a skill the way it will be used on the job.

Second, the carriage or carrier return on an electric typewriter is much easier to operate. Beginning pupils often have a great deal of difficulty with the carriage return on a manual typewriter. Some pupils return the carriage too rapidly and others too slowly—either way leads to trouble. On an electric typewriter, pupils only need to tap a key. This makes it easier for them to keep their eyes on and read the copy.

Third, stroking, one of the important techniques of typewriting previously discussed, is much less of a problem on the electric than on the manual typewriter. Good stroking involves a tapping or rolling stroke rather than a staccato or plunking stroke, and on an electric machine the pupil merely touches the keys.

Fourth, the two weak fingers on each hand do not present a problem on the electric typewriter, but they may on the manual machine. This is especially true with girls who lack physical development. Not only will pupils with weak third and fourth fingers have trouble with letters such as *a* and *s,* but they will also encounter difficulty with the shift key.

Fifth, the keyboard of the electric is an easier one on which to learn. It is considerably more level than the keyboard of the manual machine and this makes each reach easier. Consequently, fewer drills such as *fr4f* need to be given.

Sixth, motivation is important and the electric typewriter motivates pupils to a much greater extent than the manual. This is because an electric machine is much easier to operate.

When all of the machines in the typewriting room are electric, pupils can be given an opportunity to become oriented on manual typewriters in the office practice class. A unit of instruction can be scheduled for this class when pupils are working on the rotation plan.

Since business offices will be using electric typewriters more and more, office managers will expect their beginning employes, most of whom are trained in public schools, to have acquired vocational competency on this machine. When pupils trained in the business education department lack this competency, the public relations program between the school and the community is jeopardized.

### Procurement of Electric Typewriters

It has been established that the electric typewriter is superior to the manual for both business and instructional purposes. Rather than measuring the cost of electric typewriters in terms of dollars and cents, use the time saved teaching a pupil to typewrite as the criterion.

Business education departments should settle for nothing but the best so that they can fulfill their function in a minimum period of time. Business educators and administrators should bear in mind that the performance of the business education graduate is usually the only criterion used by businessmen to evaluate the entire school system. Businessmen seldom come in contact with pupils in the academic or general curriculum, but they do come in contact with those who are enrolled in vocational education, especially business education.

Rather than make surveys to determine how many electrics and manuals are used in the employment area, it is advisable to set up a programming pattern to procure electric typewriters as rapidly as possible. A suggested plan in a room with 32 manuals is to secure 8 electrics each year for 4 years. If a typewriting room is arranged with eight rows of typewriters across the front of the room and four typewriters from the front to the back, use two rows of electrics the first year, four rows the second year, etc. If this programming pattern is set up, it will be necessary for a teacher to offer instruction on electrics and manual in the same room for a period of three years. All of the machines will not need to be replaced at once if this plan is adopted.

### Teaching with Manuals and Electrics

When only one or two electric machines are in a room, they should be used for remedial purposes by pupils who are having difficulty during the first semester. Many pupils who encountered difficulty or failed in the early stages of typewriting became competent typists when transferred to electrics. In the second semester, a rotation plan should be established enabling all pupils to spend at least two weeks on an electric machine.

If a school has three to eight electric typewriters, pupils should be continuously assigned to them. In the first few weeks of the course, this assignment will be arbitrary. Necessary adjustments can be made as the term progresses. In this situation, it is advisable to secure the assistance of a pupil who formerly took typewriting and has a free period. A good pupil helper can be a real asset in helping pupils who are assigned to the electric typewriter. Again, the pupils who should make greatest use of the electric typewriters during the first semester are those who encounter difficulty with the manuals. During the second semester, a rotation plan ought to be established.

If there are more than eight electrics in the classroom, a pupil helper will not be necessary, and the instructional program must be somewhat

different. In preparing a lesson the teacher needs to bear in mind that at times it will be necessary to give one set of instructions to pupils who type on electrics and another to those who type on manuals. This may necessitate demonstrating with a manual typewriter (that ought to be retained on the demonstration stand) for the benefit of pupils using manuals, and then demonstrating on an electric typewriter at the desk of one of the pupils for those using electrics. It will be necessary to rotate seating assignments if electric typewriters are available so that each pupil can be assigned to work on an electric for at least six consecutive weeks. Pupils who encounter difficulty learning to type should be placed at an electric typewriter during the entire first semester.

**There is a marked increase in the use of electric typewriters for classroom instruction.**

Careful consideration should be given to the location of the two kinds of typewriters when they are in the same room. More efficient instruction can be given when each type of machine is grouped in rows that go from the front to the back of the room. If the electrics are placed on the teacher's right and the manuals on his left, as the need arises he can easily move from one group to the other to explain details such as carriage return, setting of margins, etc. This is superior to having the electrics in the front of the room and the manuals in the back of the room. The converse of this is also true.

CHAPTER SIX

# Facilities, Equipment, and Supplies

Although typewriting is a well-established subject in the public secondary schools of Pennsylvania, in many instances its progress has been limited by the type and location of classrooms and the lack of desirable facilities and necessary equipment.

## Plan of Room

In schools under construction in the Commonwealth, the size of typewriting rooms is approximately 1,000 square feet. The Department of Public Instruction's Bulletin 271-A, *Equipment and Layout,* presents the layout of two typewriting rooms. Page 16 of this publication has the layout of a room 825 square feet and page 18 has the layout of one 990 square feet. Since there is only a slight difference in size, the layout on page 18 can be used for reference purposes.

In planning a typewriting room it is important that the exact location of each desk or table be determined so that electrical outlets can be provided at each typewriting station. Desks should be arranged so they all face the same direction—toward the demonstration stand and typewriter from which the teacher directs the learning. As illustrated in Bulletin 271-A, it is advisable to have eight rows of desks with four desks in each row. By using this plan, the desks are arranged so the light comes in over the back of the pupils.

*Acoustics.* To reduce noise, both the ceiling and walls of typewriting rooms should be acoustically treated. Noise can also be reduced by placing rubber footing on the leg of each desk and a pad under the typewriter. Connecting doors between a typewriting classroom and another room are not advisable because noise from the typewriters will distract another class.

*Chalkboards and Bulletin Boards.* Fifteen running feet of chalkboard should be included in the plans of a typewriting room. The bottom of the chalkboard should be placed 3¼ rather than the usual 3 feet from the floor. This is necessary because pupils have to look over the typewriter to see the board. Bulletin boards can be placed above the chalkboard or anywhere on the wall that is convenient.

*Electrical Outlets.* Double rather than single outlets should be installed under each desk as eventually instruction on both an electric typewriter and a transcribing machine may be given in the business education department. The installation of electrical outlets should be above rather than level with the floor so dust and dirt will not get into the outlets and cause short-circuiting.

*Floors.* Asphalt tile or its equivalent should be used on the floor of each typewriting room.

*Lighting.* Typewriting is frequently taught in the evening. Therefore, this room should be wired and equipped to furnish between 40 and 50 foot candles of light on the working surface. This light should be evenly distributed and the fixtures should be at least 9½ feet above the floor.

*Master Switch.* A master control switch definitely should be included in the wiring plans of all typewriting rooms. This switch is a safety measure to prevent burning out the motor in an electric typewriter that is accidentally left running. It is the teacher's responsibility to turn off this switch during the lunch hour and after the last class. It is more economical to include a master switch than to burn out a motor in an electric typewriter. A master switch also insures economical use of electrical current.

*Platform.* Some business educators recommend that a platform be constructed for a typewriting desk so the teacher can demonstrate in a sitting rather than standing position. This would be a more natural situation than using a demonstration stand. If a platform is constructed, a demonstration stand will not be needed.

*Storage.* Since typewriting is a subject that requires a large quantity of supplies, more cabinets or cupboard space should be provided than in the average classroom. Items that are usually stored include carbon paper, correction fluid, erasers, master copies, paper, ribbons, stencils, and supplementary books. Typewriting textbooks also are kept in the cupboard during the summer months. Cabinets with sliding doors and adjustable shelves or with drawers can be built into the walls or under the windows and should be 12 to 18 inches deep.

*Windows.* Sufficient glass area should be planned to insure maximum natural light. It is advisable to have the bottom of the windows above the head of the pupil of average height when he is seated.

### Selection of Desks and Chairs, Copyholders, and Demonstration Stand

A school uses the same equipment for many years. Therefore, careful consideration should be given to the procurement of desks and chairs, copyholders, and a demonstration stand.

*Desks and Chairs.* Experience indicates that stationary (fixed-top) rather than adjustable desks or tables (hereafter referred to as desks) are preferable. The reasons are (1) adjustable desks cost almost twice as much, (2) pupils rarely raise or lower an adjustable desk to fit their needs, (3) the mechanism on adjustable desks may be in need of repair or become broken. If the mechanism of a desk breaks, the typewriter will fall to the floor, causing possible injury to anyone standing near the desk as well as damage to the typewriter.

Every typewriting room should have adequate storage facilities for supplies.

The working area or desk top ought to be 20 by 36 inches. Experience has indicated that the majority of the desks should be 28 and 29 inches high with a few of them 26, 30, and 31 inches high. When planning a room, 15-inch clearance should be allowed on each side of the desk. Therefore, the minimum amount of space needed for each typewriting station is 50 by 66 inches, or almost 23 square feet.

Desks should be secured that provide a place to keep books. It is possible to obtain desks with a basket or a rack at the side. An apron or a drawer in front of the desk may make it difficult for pupils to sit in a comfortable typewriting position.

The selection of chairs is also important. It is advisable to procure the best on the market. The chairs should not have casters, but should have backs and be adjustable from 15 to 18 inches in height.

A given make of desk and chair should be used on a trial basis for several weeks before it is purchased. There should be roughly six to eight inches of space between the top of the knee and the frame of the typewriter when the pupil is seated. The more level keyboards of electric typewriters necessitate less space between the height of the chair and the height of the desk. Either the desk can be slightly lower or the chair slightly higher.

*Copyholder.* This piece of equipment can be purchased commercially or it can be made out of metal or wood in the school shop. Each desk should contain one copyholder—it is used daily. The exact kind of copyholder to purchase or make depends on the size of the typewriting book to be placed on the copyholder, the size of the desk, and the material from which the desk is made. It is important that copyholders be (1) not so large that they fail to clear the carriage return of the typewriter, (2) stable so the movement will not cause eyestrain, (3) so designed that the base does not scratch the desk. Points 2 and 3 usually can be rectified by cushioning the bottom of the copyholder. Inexpensive copyholders can be made out of corrugated cardboard or foam rubber. It is also possible to improvise a copyholder by using a piece of string.

*Demonstration Stand.* A demonstration stand can be built in a school shop. It is desirable to have one in every room in which first-year typewriting is offered. (As previously indicated, a demonstration stand is not necessary if a platform has been constructed for demonstration purposes.) The base should be heavy to prevent any possibility of tipping. Since two or more teachers generally use a typewriting room each day, it is advisable to have an adjustable demonstration stand.

### Selection of Typewriters

The acquisition of typewriters is a most important function of the business education department in cooperation with school administrators

and boards of education. Since typewriters are used in both typewriting and office practice classes, the requisition of these machines should be done on a cooperative basis. When typewriters are secured, a systematic replacement plan should be adopted to avoid large expenditures in any one year because of obsolete equipment. A definite amount should be budgeted each year for new equipment. Although typewriters appear to be expensive, the converse is true when per-pupil cost (on a depreciation basis) is considered.

In the selection of machines it is important to consider items that might enhance the value of instruction: elite and pica type, blank and open keyboards, and colored typewriters.

*Elite and Pica Type.* There are 12 horizontal spaces to the inch with elite type and 10 horizontal spaces to the inch with pica type. Twenty percent more material can be typed on a page when a typewriter with elite type is used. For this reason, a majority of the typewriters in both business and government offices have elite type. It is thought that the compactness of letter size and reduced white space around the letters makes elite type easier to read. School officials responsible for procuring typewriters should consider this when purchasing machines. Schools with two typewriting rooms sometimes have machines with elite type in one room and with pica type in another room. In schools with one typewriting room, it is expedient to have machines of elite type in the typewriting room and typewriters of pica type in the office practice room.

*Blank and Open Keyboards.* The use of open (lettered) rather than blank keyboards is recommended for the following reasons. First, pupils ought to learn typewriting on equipment which is comparable to that used in offices. Learning should take place in a "natural" rather than in an "artificial" situation. Typewriters with a blank keyboard are not used in business. Second, pupils learn to type more readily when they are permitted to look at the keys and other operative parts of the machine. Third, the use of typewriters with a blank keyboard will not prevent pupils from looking at their keys because with a little practice a learner can tell one key from another. Fourth, pupils who learn on a blank keyboard have an adjustment to make when they start to type on an open keyboard. The argument in favor of blank keyboards is a weak one. Teachers who prefer blank keyboards are those who have difficulty making an adequate presentation of the keyboard.

*Colored Machines.* It is possible to obtain typewriters of different colors or shades at no additional cost. For instance, machines with elite type can be purchased in one color and machines with pica type in another. This plan facilitates the teaching of centering and marginal stops. Another plan would be to purchase typewriters of a different color

A copyholder should be standard equipment for each desk.

each year. One year tan typewriters can be procured, the next year gray typewriters, and so forth. By so doing the teacher always knows the date when each typewriter was purchased.

### Cost of Equipment

A pamphlet* previously cited contains the following information which is pertinent to this chapter:

> There should be a definite effort to standardize equipment and supplies. For example, all typewriters should be of the same make and, wherever possible, supplies furnished or approved by the manufacturer should be used. While some advantage in price is obtained by shopping for supplies and accessory equip-

* *Modern Equipment Makes the Lawyer Money, American Bar Association Economics of Law Practice Series.* Pamphlet Number Three. p. 23.

ment, if equipment and supplies are standardized, the manufacturer is more prone to correct problems which may develop.

Moreover, standardization of equipment reduces the number of contacts to be maintained with company representatives and generally effects savings on maintenance contracts.

The information in this section will deal with electric typewriters because the majority of machines purchased by industry are electric, and more and more schools are procuring electrics. The greatest expense is in the initial cost; there is not a great differential in depreciation. An electric typewriter costs approximately $275 and the trade-in will be approximately $95, or a cost of approximately $30 per year if it is used for 6 years. A manual typewriter costs approximately $150 and the trade-in will be approximately $50, or a cost of $25 per year if it is used for 4 years. However, the cost should not be compared in terms of either initial or annual cost, but rather in a comparison of the time needed for a pupil to achieve a marketable skill on the manual versus the electric typewriter.

The approximate equipment cost for a typewriting room is:

| *General Equipment* | *Estimated Cost* | |
|---|---|---|
| 32 individual desks or tables equipped with means of adjusting height, or of varying heights from 27 to 30 inches (desk or table top: 20 by 36 inches)* | $800 | |
| * Desks or tables which are adjustable cost approximately twice as much. | | |
| 32 copyholders | 32 | |
| 32 posture chairs | 640 | |
| 35 standard electric typewriters (1 for demonstration purposes, and 2 for replacement purposes) | 9,625 | |
| 1 demonstration stand | 40 | |
| 2 filing cabinets (18 by 36 inches) | 200 | |
| 1 teacher's desk (desk top: 32 by 54 inches) and accompanying chair | 150 | |
| | | $11,487 |
| *Miscellaneous Equipment* | | |
| 1 interval timer | $10 | |
| 1 paper cutter | 25 | |
| 1 pencil sharpener | 3 | |
| 1 stapler | 6 | |
| 2 wastebaskets | 10 | |
| 2 wooden desk trays | 6 | |
| | | 60 |
| Total | | $11,547 |

### Maintenance of Typewriters

Because of the relatively high cost of typewriters, the maintenance of this equipment is important. Sometimes it is advisable for schools to have a repair contract. This depends on the geographical location of the school and the type of service available. Schools in rural areas that do not have readily available repair service should enter upon this type of agreement. A contract costs approximately $15 a year for each electric typewriter and a lesser amount for each manual machine. It underwrites the cost of periodic inspections, emergency calls, labor, and replacement of parts.

Since maintenance contracts may vary, business education departments should be sure they are geting full maintenance coverage on any contract that is signed. Contracts offered at less than standard costs may not include the backing of the manufacturer.

If a contract is not in force, the school should plan to have the typewriters adjusted, cleaned, and oiled at least once each school year by a competent repairman. Some distributors of typewriters do not charge for service calls during the school term if the machines have been adjusted, cleaned, and oiled by them during the summer.

A machine cleaning schedule should be set up at the beginning of the school year and carefully followed throughout the entire term. This insures periodical cleaning of several of the important parts of each typewriter. It is advisable to designate a certain day each week for the typewriters to be cleaned—the first period class the first week, the second period class the second week, etc.

To clean a machine, wipe the platen with a cloth dampened with a typewriter cleaning solution, brush out erasure debris and paper particles, and, with a special brush, remove ink and dust deposits from the type bars or the typehead (typing element). When the machine is being cleaned, check the ribbon to see if it needs to be replaced.

### Records of Typewriters

Adequate records should be kept on all typewriters in the Business Education Department: a record card for each typewriter, a room chart of all the machines, and an annual typewriter utilization report.

A RECORD CARD can be a 4″ by 6″ card with provision for the following information:

| | | | |
|---|---|---|---|
| MAKE | _____ | VENDOR | _____ |
| SERIAL NUMBER | _____ | COST | _____ |
| ELITE OR PICA | _____ | ROOM | _____ |
| DATE ACQUIRED | _____ | LOCATION | _____ |

Any repair service which is needed on a particular machine can be recorded on the other side of this card. It is important to record the date and the type of repair service required; this section should have two columns. Repairs which have been made may be a determining factor in the replacement of a particular machine; therefore, this information is important. Some schools record ribbon wear as well as repair service on the record card.

Make a ROOM CHART, 8½″ by 11″, with a block for each typewriting station. Write the number of the typewriter in each block. Prepare a stencil from the original draft so the chart can be duplicated and used for multiple purposes.

By keeping this chart accessible, it can serve several purposes. Repair work needed on a typewriter can be noted and the service representative can tell immediately which machine needs repairs. If someone borrows a typewriter, the chart shows if the machine has been returned to the right location. An immediate answer can be given to a question on inventory. It can be used for seating purposes. It provides a record of the dates when ribbons were changed as well as the number of ribbons used in a stated period of time.

A number painted or stenciled on each typewriter will facilitate the use of these records. This prevents pupils from exchanging typewriters, and assists the serviceman in locating machines that need to be repaired.

To justify requests for new typewriters and to place on record the use of presently owned machines, it is advisable for the business education department to prepare a TYPEWRITER UTILIZATION REPORT at the end of each school term. Schools offering evening instruction in typewriting should include a notation on the report about this use of the machines. Record the number of pupils, the total number of hours the course was offered, and the equivalency in pupils enrolled for a full-year course.

An administrator can use this report advantageously when working with his board of education or businessmen in the community. It is an excellent means of pointing out to the school board the extensive use that is made of the typewriters, the number of pupils using them, and that the annual replacement cost is justified. The businessmen in the community, especially those who employ clerks and stenographers, are interested in the number of pupils being trained in this subject.

An example of a TYPEWRITER UTILIZATION REPORT may be found on page 66.

### Supplies

The most essential supplies for a typewriting room are paper, ribbons, erasers, and carbon paper.

## BUSINESS EDUCATION DEPARTMENT

## SENIOR HIGH SCHOOL

## ANYWHERE, PENNSYLVANIA

### TYPEWRITER UTILIZATION REPORT

| | |
|---|---|
| Machines in typewriting room | 35 |
| Machines used for demonstration and replacement purposes | − 3 |
| Machines available for instruction | 32 |
| Instructional periods per day | × 6 |
| Maximum number of pupils who might enroll in typewriting | 192 |
| Pupils enrolled in first- and second-year typewriting for a full year | 154 |
| Pupils enrolled in typewriting for a semester (60 ÷ 2) | + 30 |
| Total enrollment | 184 |
| Machine utilization (184 ÷ 192) | 95.8% |

June 19—

Pupils should have a place to keep their work when they leave the typewriting class.

*Paper.* A large quantity of paper is used daily in typewriting classes. If it is kept wrapped and in a place that is not too damp or too dry, it will not deteriorate or change color. Since any type of 8½″ by 11″ paper can be used, it is economical to procure the less expensive grade for straight-copy practice and work that is not going to be erased. The quantity of paper to purchase depends on the amount of storage space available. Some schools use white bond paper for production work where erasing is desirable for corrections.

*Ribbons.* Ink evaporates from ribbons even when they are kept in storage. Therefore, not more than a six-month's supply should be purchased at once. Cotton, nylon, and silk typewriter ribbons are available. Many industries have found that nylon ribbon is the most economical because it can be used much longer than a cotton or silk ribbon.

*Erasers.* This item becomes hard and not fit for use when stored indefinitely, so only a year's supply of erasers should be purchased at one time. Pupils should receive instruction on the type of erasers used by secretaries. These include a soft eraser, used to erase pencil marks, which removes the damp ink from a letter or word to be erased; a pencil style that may be sharpened on a pencil sharpener; and the circular style, with or without a brush.

*Carbon Paper.* For classroom use, heavy duty carbon paper, which can be used many times, is preferable to light weight carbon paper. As the number of required copies increases, the weight of the carbon paper should decrease. The intensity or finish of the carbon paper determines the degree of darkness of the copy. Because this paper improves with age, it can be bought in large quantities and schools can take advantage of a larger discount. Extreme dryness or dampness have an adverse effect on carbon paper. It should be stored flat.

CHAPTER SEVEN

# Administration Of Typewriting

There are a number of factors involved in teaching typewriting that make comprehensive supervision of this subject essential. The initial investment in equipment is sizeable; therefore, this expenditure must be based on knowledge of what is needed for adequate instruction, particularly the kinds and makes of typewriters and other equipment used by business firms in the area. Work which pupils do for the school and community is part of the public relations program. Good judgment must be exercised to insure that these assignments have educational value. Standards of proficiency must be established which at least equal those maintained by business.

## Supervision

Since typewriting is frequently the most popular elective subject on the secondary school level, it is important that school administrators make sure it is properly supervised. This will prevent unsound practices such as spending more time than is necessary in teaching typewriting, offering little or no instruction on electric typewriters (a condition which still exists in a few schools), and hampering quality instruction by having too many pupils in a class and/or inadequate furniture.

Supervision should include consideration of the following scheduling and planning details.

1. No more than 32 pupils should be scheduled in one class. More than 32 pupils in a class reduces the amount of time a teacher can spend on individual instruction, increases the teacher's paper work beyond reason, and makes the typewriting room too crowded. On the other hand, it is not economical for a teacher to instruct two or more classes with only ten or fifteen pupils.
2. Three periods a day are considered the maximum and/or optimum time for one teacher to offer instruction in typewriting; the rest of the time should be spent in teaching other subjects. Most teachers are convinced that they lose their effectiveness if they teach typewriting for four or more periods per day. A conference should be held with the teacher if he is asked to teach this subject more than three periods a day.
3. A teacher should not be responsible for two classes at the same time; for example, one class in one room plus another class in a second room, or some pupils in first-year typewriting and some in second-year typewriting in the same room.

4. Since typewriting is a skill subject, it necessitates spaced rather than massed practice. Experience indicates that this subject should be taught five periods per week, and that the desirable length of a period is 45 to 50 minutes.
5. Classes should not be burdened with an excessive amount of work for either the school or the community.
6. Typewriting should be offered to vocational business pupils in the eleventh and or twelfth grade or as close to the time of graduation as possible. For pupils in other curriculums, it can be taught on any grade level where it best fits into their schedule.
7. The quality of instruction will be improved if all typewriters are of the same make. Pupils can practice on other makes of machines in the office practice class.
8. At least two reserve typewriters should be available in each typewriting room for use in case other machines are out of order.
9. If manual machines are used, a programming pattern should be set up to replace them with electric typewriters.
10. Demonstration stands, copyholders, adjustable chairs, and desks of varying heights should be provided for all typewriting classes.

When the administrator does classroom supervision, he should check on the following:

1. As pupils enter the room, do they quietly secure paper, sit at their station, and start to type on an exercise that has been assigned previously or is indicated on the chalkboard?
2. Is the teacher following the suggestions under *Psychological Principles, Individual Differences,* and *Teaching Procedures* set forth in Chapter 2 of this bulletin? To supplement this information, the administrator's knowledge of psychology of learning, especially the psychology of skill building, will be helpful. Too often the teaching of business subjects is supervised without distinguishing between problem solving and skill building.
3. Does the teacher spend adequate time demonstrating the proper technique to the class? This is highly desirable, especially in the first six-week period.
4. Are copyholders being used? Copyholders reduce ocular fatigue and should be standard equipment for the typewriting classroom.
5. Do the pupils appear to have good posture? Are they sitting up straight, are feet flat on the floor, and are the forearms sloped slightly upward?
6. Does the teacher refrain from sitting at his desk when class is in session? Is he constantly on the alert to help pupils who are encountering difficulty?

7. Have pupils been taught after the first semester to locate their own errors and are these errors either corrected or marked as such in accordance with the type of work being done?
8. As pupils leave the room, do they leave their papers in an assigned place without confusion or unnecessary noise? Are the chairs placed under the desks or tables, and the copyholders and books left in perfect order?

### Work for the School and the Community

The board of education in each school district should adopt a policy prohibiting the exploitation of vocational business pupils for personal benefit. Pupil time in typewriting classes should be utilized only in planned instruction which may include preparing work for tax-supported or philanthropic agencies.

It is advisable to channel all requests for work to be done by typewriting classes through either the office of the high school principal or the head of the business education department. Those who request this service should be informed that it will be necessary to accept the work of all pupils and not only the work of the better pupils.

Each pupil should have an opportunity to do some work for either the school or the community. This will increase his confidence and make classroom activity similar to a business situation.

Work of this type should be rigidly controlled so no pupil is assigned a job that has no educational value. Unfortunately, many requests for typewriting are so similar that they do not present a learning experience. Consequently they have no educational value.

When requests for work to be completed the same day are excessive, as is often the case, pupils do not have enough time to do the work carefully. Since they are novices and their standards are still in the formative stage, they should not be subjected to pressures which result in inferior work. Standards must be maintained; poorly prepared copy should not be accepted.

### Use of Intercommunication System

Instruction is hindered when an administrator or an educational secretary uses the intercommunication system during class periods. (In some schools it is used as often as six or eight times a period.) The effects of this distraction are particularly detrimental during the first few weeks of typewriting instruction when new keys or other subject matter must be learned every day and coordination between mind and fingers must be firmly established. Also, it interrupts tests and other exercises which are given continually to develop proper techniques, accuracy, and speed.

Therefore, it is suggested that a policy be adopted specifying that the intercommunication system will be used only at the beginning or end of a class session. It should not be used at any other time except in case of an emergency.

**The typewriting room should be neat and orderly when the pupils leave the class.**

CHAPTER EIGHT

# Instructional Aids

## Books

Many books on typewriting are available. It is impossible to list all of them in this guide. Therefore, the following list should not be considered exhaustive.

### *Books for Teachers*

Blackstone, E. G., and Sofrona L. Smith, *Improvement of Instruction in Typewriting.* Englewood Cliffs, Prentice-Hall, Inc., 1949. 470 pp.

Clem, Jane E., *Techniques of Teaching Typewriting.* New York, Gregg Publishing Division, McGraw-Hill Book Company, Inc., 1955. 380 pp.

Lamb, Marion M., *Your First Year of Teaching Typewriting.* Cincinnati, South-Western Publishing Company, 1947. 213 pp.

Russon, Allien R., and S. J. Wanous, *Philosophy and Psychology of Teaching Typewriting.* Cincinnati, South-Western Publishing Company, 1960. 442 pp.

### *Books for Pupils*

Leslie, Louis A., and Philip S. Pepe, *Typing Simplified.* New York, American Book Company, 1952. 229 pp.

Lessenberry, D. D., T. James Crawford, and Lawrence W. Erickson, *20th Century Typewriting.* Cincinnati, South-Western Publishing Company, 1957. 338 pp.

Nelson, Roger H., *Accelerated Typing.* Salt Lake City, Business Education Publishers, Inc., 1959. 523 pp.

Reigner, Charles G., and Walter S. Rygiel, *Rowe Typing.* Baltimore, H. M. Rowe Company, 1958. 315 pp.

Rowe, John L., and Alan C. Lloyd, *Gregg Typing.* New York, Gregg Publishing Division, McGraw-Hill Book Company, Inc., 1958. 357 pp.

Scott, Wesley E., William J. Hamilton, and Arthur Hertzfeld, *Modern Basic Typewriting.* New York, Pitman Publishing Corporation, 1954. 92 pp.

Tidwell, M. Fred., and Esta Ross Stuart, *Tidwell-Stuart Typing.* Englewood Cliffs, Prentice-Hall, Inc., 1954. 262 pp.

## Miscellaneous Publications

There are many monographs, newsletters, pamphlets, and other publications that contain excellent information on typewriting. Many of these are indicated in the footnotes of this guide. The following is a partial list of additional items.

*Electric Keyboard Mastery.* Royal McBee Corporation, Port Chester, New York, 1960. 32 pp.

*Electric Typing Is Easy Typing.* Underwood Corporation, One Park Avenue, New York 16, New York, 1958. 28 pp.

*Electric Typing Methods for the Teacher.* Royal McBee Corporation, Port Chester, New York, 32 pp.

*Federal Stenographer and Typist Examination.* Superintendent of Documents, U. S. Government Printing Office, Washington 25, D. C., 1957. 71 pp.

*Guide for the Improvement of Typewriting Instruction, A.* Atlanta, Georgia, State Department of Education, 1959. 146 pp.

*History of the Typewriter, The.* Underwood Corporation, One Park Avenue, New York 16, New York, 1958. 16 pp.

*Model Letter Kit.* Remington Rand, 315 Park Avenue South, New York 10, New York.

*Presentation Kit of Typewriting Teaching Aids.* Smith Corona, Inc., Syracuse 1, New York.

*Psychological Foundations of Motor Skill Building as Applied to Typewriting.* The College of Education Record, Grand Forks, University of North Dakota, 1961. Pp. 54-68.

*Psychological Principles of Teaching Typewriting.* Cincinnati, South-Western Publishing Company, 18 pp.

*Second-Year Typewriting in American High Schools: Its Status and Trends in 1960.* New York, Gregg Publishing Division, McGraw-Hill Book Company, Inc., May, 1960. 5 pp.

*Secretarial Shortcuts.* International Business Machines Corporation, 545 Madison Avenue, New York 22, New York, 1960. 25 pp.

*Seven Keys to Better Faster Typing, The.* Superintendent of Documents, U. S. Government Printing Office, Washington 25, D. C., 1958. 38 pp.

*Short Course in Electric Typewriting, A.* International Business Machines Corporation, 545 Madison Avenue, New York 22, New York, 1960. 17 pp.

*Some Typing Authorities Speak.* Business Education Bulletin No. 2. Englewood Cliffs, Prentice-Hall, Inc., 1960. 16 pp.

*Study of the Validity of Some Methods of Measuring Straight-Copy Typing Skill, A.* Ruston, Louisiana Polytechnic Institute, November, 1956. 27 pp. (Plus tables).

*Tool of Literacy, A: The School Administrator Considers the Typewriting Program.* The College of Education Record, Grand Forks, University of North Dakota, January, 1960. 16 pp.

*Typewriters Electric or Manual? Report on the Findings of Two Separate Official Government Studies.* Remington Rand, 315 Park Avenue South, New York 10, New York.

*Typewriting News.* Cincinnati, South-Western Publishing Company. (Annual publication in the form of a newspaper.)

*Typewriting Research Index (1900-1954).* Harves Rahe, 807 Twisdale Avenue, Carbondale, Illinois, 1954. 44 pp.

*Typewriting Style Manual.* Cincinnati, South-Western Publishing Company, 1958. 56 pp.

## Audiovisual Aids

A recent business education publication* presented a comprehensive list of typewriting audiovisual aids. Some of this information is presented under the rubrics *Charts and Posters* and *Films.* The charts and posters are sold by the vendors whose names and addresses are given. Some of the films can be secured without a rental fee, others have a nominal rental fee, and many of them can be purchased.

### *Charts and Posters*

*Colorful Typing Posters.* Poster Visual Aids, Business Teachers Guide, Dept. B, 58 Union Street, Milford, New Hampshire.

Two sets of six posters each are available. They point out desirable typing techniques and work habits in a humorous manner.

*Good Posture Charts.* Ajusto Equipment Company, Bowling Green, Ohio.

Each chart (11″ by 17″ and prepared in color) shows correct and incorrect positions at the typewriter.

* Harves Rahe and others, "The Typewriting Library," *American Business Education,* 16:289-91, May, 1960.

*Gregg Typing Picture Posters.* Gregg Publishing Division, McGraw, Hill Book Company, Inc., 330 West 42nd Street, New York 36, New York.

This letter style poster series provides large blow-ups of the common letter styles as well as envelopes and other "extras."

*Letter Writing Kit,* and *Typewriting Technique Display Kit.* Educational Supplies and Services, Box 110, East Carolina College, Greenville, North Carolina.

*Letter Writing Kit* includes materials for teaching letter styles, parts of the letter, punctuation forms, and variations of each. Designed primarily for flannel board or bulletin board use.

*Typewriting Technique Display Kit* (also designed for bulletin board or flannel board use) illustrates 15 typing techniques in color.

*Motivation Chart for Typewriting.* Teaching Aids Exchange, Box 1127, Modesto, California.

This 4-color chart, designed in the form of a modern skyscraper, is 22″ by 32″. Students start at the basement as unskilled workers at low pay. As each typing test is passed, their pay and stature in the business world increases until the top is reached. Fifty miniature figures included with each set are used to represent students in the class.

*Tap Tapnik, the Satellite Man, and His Typing Techniques.* Poster Visual Aids, 58 Union Street, Milford, New Hampshire.

This poster, 30″ by 40″, is printed in red and black. It emphasizes 13 fundamental typewriting techniques.

*Teaching Aid Cartoons.* National Association of Secondary School Principals, 1201 Sixteenth Street, N. W., Washington 6, D. C.

Cartoons, for bulletin board use, which emphasize basic typing techniques. One set for beginning and one for advanced typing classes. Each set of 12 cartoons (8½″ by 11″) is printed in black and white on durable white stock. Valuable in illustrating common learning problems encountered by students.

*Typing Cartoons.* Ohio Typewriter Service, 3759 Berkley, Cincinnati 36, Ohio.

Set consists of ten 8½″ by 11″ posters using cartoons to emphasize various typing techniques. Each cartoon, printed in black and yellow, illustrates a particular typing technique.

*Typing Posters.* Business Teachers Guide, Poster Visual Aids, Department B, Box 114, Conway, New Hampshire.

Set of six 8½″ by 11″ posters. Cartoons are used to show faulty typing techniques.

*Typing Teacher's Hot Rod Motivation Device.* Freda Noble Paul, 2227 Tenth Avenue, Huntington, West Virginia.

Envelope containing 21 separate sheets of "push-out" car models, 14 cars on each sheet. The models are prepared from strong Bristol paper in seven different colors. Also includes a sheet of instructions and suggestions to aid the teacher in setting up this motivation plan for improving speed in typewriting.

*Films*

*Better Typewriting at Your Fingertips.* Modern Talking Picture Service, 3 East 54th Street, New York 22, New York.

The film, revised by Smith Corona, Inc., covers a wide range of typing techniques demonstrated on electric, manual, and portable machines. Norman Saksvig handles the demonstration as he did in the previous film by the same name.

*Building Typing Skill.* Coronet Films, Dept. B-107, Coronet Building, Chicago 1, Illinois.

This film shows how a learner builds typing skill including relaxation, precise operative control, attention to copy, control of arms and hands, and self-confidence as he pushes into higher speed areas.

*Eight Parts of a Business Letter.* Business Education Films, Film Center Building, 630 Ninth Avenue, New York 36, New York.

Proper typing of eight parts of a letter is illustrated and explained. Also includes information on correct form in addressing envelopes, folding letters, inserting letters into envelopes, and the printing of letterhead stationery.

*Electric Typing Time.* International Business Machines Corporation, Film Library, Department of Education, Endicott, New York.

A comprehensive, fast-moving story about the people who use electric typewriters in classrooms and offices. It covers basic skill development and the application of that skill on the job. A teachers' guide booklet is available for use with the film.

*Keys to Electri-conomy.* Remington Rand, 315 Park Avenue South, New York 10, New York.

Demonstrates the Remington "Electri-conomy" typewriter and presents an approach to the problem of electric versus manual typewriting.

*Keys to the Future.* Association Films, Incorporated, 561 Hillgrove Avenue, LaGrange, Illinois.

A strong self-improvement theme encourages young people to think and plan realistically about the future. Typing is presented not as

an end in itself but as a tool that can be used throughout life. Produced by the Royal Typewriter Company.

*Ready to Type.* Coronet Films, Dept. B-107, Coronet Building, Chicago 1, Illinois.

Contrasts the typing efficiency of two typing students. George arranges his materials conveniently and takes time for conditioning practice. Jane plunges in with no preparation.

*Right at the Start.* Royal Typewriter Company, 2 Park Avenue, New York 16, New York.

A series of six films giving instruction in beginning typewriting.

*Right Touch, The.* International Business Machines Corporation, Film Library, Department of Education, Endicott, New York.

Produced by Telamerica, Inc., for IBM. Technical advisers were the NSA, UBEA, NOMA, and *Charm* magazine. Tells the story of a secretary and her career—first as a student, then as a typist in a steno pool, and eventually as a topnotch secretary. Designed to inspire the young secretarial student and to interest the nonbusiness student in an office career.

*Shortcuts in Typing.* Educators Progress Service, Randolph, Wisconsin.

This film is suitable for high school students and for adult groups interested in typing as a vocation. It demonstrates many ways to make typing easier.

*Ten Copies, Please.* Underwood Corporation, One Park Avenue, New York 16, New York.

This film presents a history of writing. After showing the early methods of writing, the film shows a contemporary office and explains the operation of the electric typewriter. George L. Hossfield gives instructional tips on the advantages of the Underwood electric typewriter and correct typing techniques.

*Tips on Typing.* Underwood Corporation, One Park Avenue, New York 16, New York.

George L. Hossfield demonstrates the use of time-saving features, such as elimination of unnecessary motions, and short cuts in handling carbon paper, chain feeding, and label writing.

*Typewriter in Business, The.* Remington Rand, 315 Park Avenue South, New York 10, New York.

Shows the many uses of the typewriter in the business office. Free pictorial summaries for each pupil and a teacher's discussion guide are available.

## DEPARTMENT OF PUBLIC INSTRUCTION

* * * *

William H. Selden, Jr., Author, *Consultant,* Business Education, Department of Public Instruction, Harrisburg.

Edited by Helen W. Bierstein, Office of Public Information and Publications, Department of Public Instruction, Harrisburg.

Production and layout by Richard F. Seiverling, *Publications Specialist,* Office of Public Information and Publications, Department of Public Instruction, Harrisburg.

Bulletin 275 is available for other than Pennsylvania public school distribution on receipt of check or money order for $.50 payable to the Commonwealth of Pennsylvania and sent to the Office of Public Information and Publications, Department of Public Instruction, Box 911, Education Building, Harrisburg, Pennsylvania. Do not send cash. Make checks payable to the Commonwealth of Pennsylvania.

# *Acknowledgments*

Grateful appreciation is expressed for the assistance of the following business educators in the Commonwealth of Pennsylvania:

Dorothy Ferencz, *Associate Professor,* Allegheny College, Meadville (presently at Mohawk Valley Technical Institute, Utica, New York).

J. E. Gratz, *Director of Business Department,* State College, Shippensburg.

Leroy F. Harmon, *Head of Business Department,* Cedar Cliff High School, Camp Hill.

Beatrice F. Hicks, *Assistant Professor,* State College, Indiana.

Lawrence Imboden, *Head of Business Department,* Muhlenberg Township High School, Laureldale.

D. D. Lessenberry, *Professor,* University of Pittsburgh, Pittsburgh.

Bernard J. McDonnel, *Supervisor of Commercial Education,* Public School District, Philadelphia.

Clara H. McElhaney, *Teacher of Business Education,* Conestoga Senior High School, Berwyn.

Catherine M. McManmon, *Teacher of Business Education,* Myers High School, Wilkes-Barre.

Bernadine Meyer, *Associate Professor,* Duquesne University, Pittsburgh.

James A. Parfet, *Head of Business Department,* Cumberland Valley High School, Mechanicsburg.

T. H. Penar, *Registrar,* Grove City College, Grove City.

Charles C. Roberts, *Head of Business Department,* Abington Township Senior High School, Abington.

Walter S. Rygiel, *Associate Professor,* State College, Bloomsburg.

Mary Unikel, *Teacher of Business Education,* Peabody High School, Pittsburgh.

Louise Westrick, *Teacher of Business Education,* Johnstown Senior High School, Johnstown.

William S. Whiteley, *Head of Commercial Department,* Reading Senior High School, Reading.

Elaine L. Wilson, *Teacher of Business Education,* Manheim Township High School, Neffsville.